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AUGUST.

"The seed must die, before the corn appears
Out of the ground, in blade and fruitful ears.
Lest have those ears before the sickle lain
Ere thou canst treasure up the golden grain.
The grain is crushed, before the bread is made;
And the bread broke, ere life to man conveyed.
Oh! be content to die, to be laid low,
And to be crushed, and to be broken so."

Editorial Gossip from the Farm.

GOOD FARMER: This monthly "Gossip" professes to be a free talk with your readers, and not mere "tattle" let us hope. The dictionaries define *gossip* "trifling talk," and a *gossip*, "a trifling talker;" but do you know that its early meaning was a "Sponsor in Baptism?" Mr. Trench should put it on his list of word-histories, and tell us how it came to pass that what in the beginning expressed a solemn promise and vow to God, has become in these latter days trifling talk. Have the vows of god-fathers and god-mothers come indeed to this complexion?

But this is not agricultural; neither are the beautiful lines at the top of the page agricultural. But I make free, at least on this page, to deviate from the ruder way of the merely practical to gather a flower here and a fruit there, for the reader's refreshment. The gem which each month gilds our opening, and the aphorisms for "Sunday Reading," that close each number, are very treasures for those who will use them well. Read again the lines above, and read often our closing page.

It may be necessary, oftener than we suppose, to explain for the benefit of some readers what such and such articles mean, or are designed to teach; as the boy writes under his picture,

this is a horse; or poor Artemus Ward, when he says "this is rote sarkastikul." I find myself somewhat taken down occasionally by a matter of fact reader, who can't for the life of him see a joke; or, by another, who, supposing it to be the only duty of an agricultural editor to tell him what to do, and what not to do, in all the phases of his agricultural life, takes me to task for prescribing, for instance, so preposterous a practice as "digging up every year all the fruit trees in the orchard and moving them to fresh places."

I got a letter from such a friend some time back, which, being mislaid, I could not publish. With a very kind expression of general appreciation, it found fault with several articles as tending to damage the character of the *Farmer's* teachings. He objected to that headed "Cats and Clover," as being, in his opinion, a "far-fetched" conjunction of ideas; failing to see that it was "rote sarkastikul," and that the very fun of the thing was the "far-fetchedness" of the *con-cat-enation*.

Then that matter of moving the fruit trees. The article in question related the experience of an English fruit grower, and his remarkable success in the removal of even full-grown fruit trees, with a material improvement in their bearing. It claimed indeed that the experimenter had found a profit in his practice. The article received credit from the intelligent and experienced editor of the *Gardener's Monthly*, where we found it. In transferring it to our columns it was not supposed that a single reader would go to work to dig and remove his fruit trees. Had every one of them given it full credit, not one still but would have found that he had something else to do. But was there nothing to be

learned from such an article? First this, that if a full grown, or half grown, tree could be profitably moved, we need never sacrifice a good fruit tree because it happens to be in the wrong place, nor keep it in the wrong place for fear of losing it. Secondly, we need not think it necessary to plant very young trees, and so be several years longer without fruit, if big trees can, with proper care, be as safely removed. Thirdly, there seemed to be this special lesson taught, that to keep trees in good bearing the roots need fresh pasture ground. If they will endure all this mutilation of roots which the change involves, and still bear better than before, there seems to be the strongest testimony to the value of fresh soil. If we will not remove our trees, we may remove two or three inches of the surface mould and replace with some other.

Then, it was objected that we had published an article condemning the practice of planting corn and other crops among fruit trees, when our correspondent assures us he and his neighbors know very well that the orchards are benefited by the working. They may be the better for the working, notwithstanding the corn. It was the corn we objected to. Does the orchard profit by that? And so there were other things which we now forget that, our friend said, he and his neighbors made merry over. There was no objection to that had they laughed where the fun was, but what if they laughed in the wrong place?

I send you this month an interesting account of a system of poultry management put into successful operation by a Frenchman, (M. Giot) which is designed to be suggestive only. Our correspondent above noticed will observe, that it is not our purpose to advise him to ride his hens around the farm in an omnibus or wheelbarrow, as this Frenchman does, and yet we think there are good hints to be taken from the description. Whether the French monarch, who wished to see a pullet in the pot of every peasant, took the hint from the prevailing fondness of the French people for poultry, or the people took their fancy from the speech of the King, it is certain that they take the lead of any other in the extent and success of their poultry raising, and we may well take lessons from them in consideration of their enormous exports of eggs and poultry, after supplying home demands.

Is not this matter of poultry raising of vastly more importance in this country now than ever before, as being work which women are especially fitted for? The moveable system of M. Giot, if found to be practicable, will be economical and especially promotive of the health of poultry.

Who ever saw a sick chicken which took an extensive range away from the kitchen door? What gleaners would they make of grain fields, and how plump and fat would they become, without cost to the owner—saving all the waste of the farm. Moveable poultry establishments would certainly get rid of the difficulty as to health of the birds, which meets us in all schemes for raising them in large numbers. But let the reader see what is said of the method of management, the utility in destruction of grubs, &c., which is set forth in this account of the earnest Frenchman.

This writing brings us to the middle of July, with not more than half of the hay harvested, and that which is, looking black enough with the rains that *would* catch it before it could be cured and put away. The corn is but poorly worked, and the working not completed, for the same reason. It is not to grumble over the season, but to make a record of the extraordinary impediments to all farm work. The grass lands and the woods are as richly green as on the first of June.

Yours truly, &c.

Cranberry Culture.

The following is from an old cranberry grower in Massachusetts:

THE CHOICE OF LOCATION.—First, cranberries will grow on high, moist land, and sometimes produce well; but their proper place is low and springy, or wet land. The best place, however, is a peat bog and swamp muck.

PREPARATION OF THE GROUND.—First, make the surface of your ground as even as possible, and nearly level, with a slight inclination towards a drain, if you have one, in order that it may be easily flowed, and no ponds remain after drawing off the water. This may be done with any material. There should then be put on this level surface, about four inches in thickness of swamp muck or peat, which should be again covered with about three inches in depth of loose sand, free from grass and its fibres, and also from clay or stones. It is not important what the color or quality of the sand, if it be not adhesive, and is free from roots and grass.—*Massachusetts Ploughman.*

BREEDS OF SWINE.—In an article on swine, in the *Farm and Fireside*, Mr. John Dimon, of Pomfret in Connecticut, recognizes seven, and only seven, distinct breeds in this country, viz: Yorkshire, Chester County or Chester White, Essex, Suffolk, Berkshire, Lincolnshire and Chinese.

Farm Work for the Month.

In August, if ever, the farmer may take things leisurely if not lazily. He has worked through the great labors of planting and hoeing and harvesting, which allow no intermission, and little rest. Now the demands on his industry are less urgent, and he may take to the shade at noon, go a fishing on Saturday, or even whirl away by steam, for a change of scene, and change of life. Yet there is work to be done, and enough of it.

THRESHING GRAIN.

To get the wheat crop, as well as other grains, in readiness for market, is usually the work of this season, and it is well if, under present circumstances, it can be accomplished. If labor be scarce, and there is no pressing need of the proceeds of the crop, it may be left for winter work, and the time now occupied in preparation for another crop, hauling manure, or other outdoor work.

Take special care to guard against accidents with the machine. The driver must be so fixed, that he cannot, if he is so disposed, thrust his legs among the cog-wheels, and a machine that makes it very convenient to the feeder, to have his hand torn to pieces, should be condemned as unfit for use. Let the face of the driver be well protected against the dust by a mask of sponge kept moist.

PLOUGHING FOR WHEAT.

Let this work be done early, the sooner the better. As the ground is likely to be too hard to plough, no opportunity should be lost when it can be done. Otherwise the seeding may be delayed beyond the right time. Whoever appreciates the importance of early seeding, indeed its necessity, will not fail to see how desirable is the due preparation of the ground before the heat and drought have made it impossible. In any good wheat ground, a team of three horses should be used to break up well to the depth of full eight inches.

The practice of sowing oat stubble, and manuring with the yard accumulations of the past season, is a good one; but it is bad practice to plough under the manure, as is still too much the custom. In the first place, the ploughing, which should be done promptly, is unnecessarily delayed till the manure can be hauled out, and in the second place, the manure is less effective both for the wheat and the grass following. Let the whole team be used in breaking the ground, and the manure be applied at leisure, throwing it out broadcast from the wagons.

TOBACCO.

Keep the tobacco well worked as long as it can be done with safety to the outspreading leaves. Give a second hoeing, drawing the earth moderately to the plant, and lay by when the leaves reach across the rows.

WORMS.

If worms become very numerous, the greatest diligence must be exercised in subduing them before they get much size. It is a great damage to the crop to have it ragged and eaten by the worms after the leaves have attained much size.

POISON.

The following mode of preventing them by poison, is recently started as the experience of a Kentucky planter, but was published many years ago in the *American Farmer*. In February No., 1859, a correspondent gave us this mode of using the poison, which had been before recommended in our pages: "Cobalt must be beat into an impalpable powder. Two or three ounces of this powder put into a half pint measure, and water and honey in equal parts added thereto. From three to six drops of the poison to be put into the flower of the Jamestown weed, and in the flower of the seed plants in various parts of the field." It may be set in saucers on the tops of posts; but care should be taken lest negro children, or others, be poisoned by it. White sugar used instead of the honey is less liable to sour. To be most effective, this poison should be used throughout a neighborhood. It destroys the hornblower effectually, and stops the propagation.

TOPPING AND SUCKERING.

This work should be done just as the plant is coming into bloom—topping down to leaves six inches in length, early in the season, is the practice of Maryland planters. Later in the season, it should be topped still lower, to give the upper leaves the opportunity of getting a good growth.

The tobacco will be ready for the house in about three weeks after being topped. In the meantime the "suckers" will start from the foot of each leaf, and should not be allowed to make much growth before they are taken out, as they suck the juices that should give substance and weight to the leaves. It is very necessary to remove all suckers before cutting, as they will continue green in the house, and when finally killed by frost, stain and damage the leaves.

POTATOES.

Continue to work crop of late potatoes until they come into bloom.

RUTA BAGA AND WHITE TURNIPS.

Sow without further delay the first named. It is a valuable crop on ground well manured and well worked. Sow other sorts from 10th to 20th of the month. The ruta бага should be sown on slightly raised ridges. Peruvian guano and well ground bones, or some good phosphatic guano—one hundred weight of the former to two of the latter—makes a good dressing per acre on ground in good condition, but should be increased for poor land.

RYE.

If rye is to be sown get the ground in readiness this month, and sow by the first of September. As a grain crop, rye is little prized in Maryland; but for green food in early spring it is very valuable.

BUSHES AND BRIARS.

On grain farms, there will be opportunity now to run over the fields and destroy all bushes and briars. Mullein and other such weeds, should be destroyed before the seeds ripen.

TIMOTHY SEEDING.

The sowing of timothy in ground not occupied with grain, is less customary now than formerly. The better practice is to grow it in a rotation with wheat and clover, sowing the seed immediately after the wheat is put in, on the surface, the clover seed to follow in the spring. The timothy in such case, occupies the field two, three, or more years, according to circumstances. If it is proposed to sow the seed alone, the ground should be got in readiness, and sown by the last of the month. The same practice is proper for herd's grass or red top.

CATTLE PENS.

Keep them well supplied with litter, and accumulate material for manures. If you have movable pens in the field, do not allow them to stand longer than two weeks, and cover the ground of the new pen with a good thickness of straw, leaves, or whatever litter you can command.

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EXERCISE YOUR HORSES.—Farmers should not neglect to give their horses proper exercise. Do not suffer the horses to stand the whole week in the stable, but give, at least, one hour's exercise daily. Give sloppy food at least twice a week, and throw a lump of rock salt in the manger.—*Stock Journal.*

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DEATH OF HON. ISAAC NEWTON.—The Honorable Isaac Newton, Commissioner of the Department of Agriculture at Washington, died on the 19th of June, after an illness of some weeks.

The Vegetable Garden.

Prepared for the American Farmer, by DANIEL BAKER,
Maryland Agricultural College.

AUGUST.

Warm weather and showers have done good to everything, and everything promises a good harvest; and the promise of "seed time and harvest" is again being fulfilled. The present is a good time to go through the garden with the cultivator and hoe, and destroy the weeds while young. When cut up in that state a few hours of bright sun will destroy them. Such bad roots as dandelion, dock, &c., should be cut often, and the roots will die; but it is much more effectual to dig the roots up, which plan we adopt, labor to the contrary notwithstanding. Upon walks and roads, our plan is to cut the root below the surface as deep as possible, and put a little salt upon the top of the root. This plan we have ever found effectual in the total destruction of the root. The best plan with which we are acquainted is to cut up *all* weeds before they are an inch high. Those who have large estates to look over, must rack their brains as to what must be done first, and manage so that no two steps shall be taken when one will do. Two weeks since we congratulated ourselves upon having a clean garden; in passing over it again this morning we found not only first, but second and third crops seeding. Old and young plants forming a dense carpet, the whole forming a fine collection of weeds; there was work for the cultivator, hoe and hand.

We are confident that one year's neglect will give plenty of work for twenty years to come. The seeds of many of the most destructive weeds are very tenacious of life, and will only vegetate when brought near the surface. Every fresh turning up of the soil will bring great numbers of these seeds sufficiently near the surface to vegetate, and when they are destroyed the garden may be tolerably free for that season; but the fresh stirring of another year brings myriads to the surface, and another carpet is the result; and then, having no plants seeding, some friend just beginning to tread the labyrinths of science, begins to entertain some notions about spontaneous generation, combined with other wild ideas of what can be accomplished in forming organized existence out of peculiar combinations of matter, &c. Making all allowances, there can be no question that the seeds of many plants plowed or spaded down into the ground will retain their vitality for a long period, and will

vegetate whenever placed in suitable condition as to air and moisture to do so.

After showers of rain, proceed to earth up cabbage, Brussels sprouts, and whatever other crops may require it. Keep the ground free from weeds and remove all crops that are done with, and make preparations for any crop which may have to stand the winter.

Mulching between the rows of vegetables we can strongly recommend, for whenever the ground is sandy or adhesive, and exposed, at this season, to the powerful action of the sun, the roots of vegetables are very likely to be destroyed.

The principal sowing of cabbage for spring use should be done towards the end of the month. The Early Wakefield or Jersey Wakefield, or Early York, are as good as any we have ever grown for fall and early spring planting.

Abundance of water should be given to celery newly planted, and also liquid manure to the earliest crop; after which it should be earthed up. Continue to plant out, being careful to take up the plants with as much soil about the roots as possible.

Make another sowing of lettuce for use in the fall. We have had on trial, during the present season, several new and other kinds of lettuce, none of which, all things considered, are as good as our old favorite, the "Paris Silesian."

As ground becomes vacant, make sowings of Strap Leaved and Purple Top turnips.

Continue to transplant endive, in frames, for winter use, where they can be covered with straw mats during the winter months.

Keep the crops of string beans closely picked, for if allowed to remain until they are too old for use, they discontinue to bear as they otherwise would. Make a sowing of the early Mohawk, or Valentine, for a late crop; make another sowing of black Spanish radish and also of the turnip rooted kinds.

Take up potatoes where they are ripe, and put in German greens, Scotch kale, and other winter greens in their places.

We do not approve of the plan of planting winter greens between the rows of potatoes before the latter are taken up. We have found that whenever cabbage, &c., are planted between the rows the ground is trodden down so hard in planting and watering that the crop seldom comes off so well afterwards, as it does on well cleared and cultivated ground. These observations do not, of course, apply to large market gardens, but to the garden of the farmer, for whom we write; and to whom we would say, treat your gardens well and kindly; stir them well and deep; give your crops what we have so often

recommended—all the sewage water from the house, &c., and they will rarely say, "hold, it is enough."

Sow spinach for a supply during the fall.

Prince Albert and other early peas may still be sown for a late crop.

Onions should be taken up as soon as ripe, and a few sown for green onions during the fall. Do not omit to work well between the rows of all such crops as will be benefited thereby until they are sufficiently thick to prevent it. This will apply to crops of parsnips, carrots, beets, turnips, peas, beans, &c., &c.

Towards the end of the month sow cauliflower seed on a bed of fine, rich earth, and when about two inches high take them up and pot in small pots in good, rich compost, and plunge the pots in tanners' bark or coal ashes. As soon as the pots are full of roots they should be shifted into pots about three inches over, and kept in frames during the winter; the pots plunged to the rims to prevent frost from touching the roots. This may look like bestowing a great deal of unnecessary labor upon the cauliflower. We can only say that we consider it about the finest vegetable grown when managed well, and experience has taught us that the above mentioned plan pays better in the end than any other we have ever tried for a crop in early spring.

There will, for many weeks to come, be great accumulations of weeds and rubbish, by the digging up potatoes, removal of pea and bean straw, and many other materials which, when decayed, will make good manure. The economical manager never wastes a particle of anything which can be rotted into compost, and if the compost pits are now full, room must be made for any extra supplies. It is not uncommon to see the refuse of the garden placed in holes full of water in order that it may decay the more rapidly. The idea that water washes out all the goodness of the material is forgotten. It would be much better to accumulate all vegetable refuse in one heap, to undergo fermentation and decay without the help of adventitious moisture; and when offensive effluvia results, put a layer of earth over the heap. We have found common mould to be the best of all deodorizers.

As they ripen, save seed of all choice kinds of vegetables, being careful to select from the earliest and best kinds for the purpose.

Cucumbers and string beans for pickling should be sown during the first ten days of the month.

Thyme and other such herbs should be gathered when in flower, and dried in a shady room.

When the stalks of onions turn yellow they

should be taken up, lest they should make fresh roots, which should be prevented if possible.

Look over the remarks for the past two months and see what has escaped attention.

With favorable weather, lost time may be improved by those who are diligent and vigilant.

The Fruit Garden.

Where it is desired to make new plantations of strawberries, it should be done at once, as they who plant now will be sure of a fair-crop next year, while they who delay the planting until the ground gets cold, and the energies of the plant subdued, will in all probability have to wait the result of another season.

Strawberries planted later than the last week in August, or during the first ten days of September, rarely do any good. There is no plant in our gardens which shows more decisively the difference between good and bad cultivation than the strawberry. To plant them without due care, combined with good preparation of the soil, is next to waste of time and money. There is no fruit-bearing plant, with which we are acquainted, so certain to pay for good treatment. To insure success, the cultivator must be liberal in the preparation of the soil; such as deep working with spade, or subsoil plough, using good barn-yard manure, and plenty of it, upon open, well exposed, sunny spots. In growing the strawberry, there should be no half way measures. The soil spaded or ploughed deep, leaving the surface rough, planting immediately after a rain shower, which will save trouble in watering, &c., using all available means to secure a strong, unchecked growth from the time of planting. It not unfrequently happens that beginners in strawberry culture become discouraged by the loss of plants, especially in purchasing new kinds. They order their plants of some distant nurseryman, which, in due time, come to hand, most probably, consisting of very small plants of some two or three leaves each, with as many small, delicate rootlets; more than half of such plants die in a few days, and a considerable proportion of the remainder, during the early part of the winter. When the demand is large for any particular variety, the nurseryman is compelled to do the best he can with all the small rooted offsets they can obtain; hence many plants are sent out that require some special nursing before being planted out. Our plan has hitherto been, upon receiving small plants of new kinds, to pot them separately, (pots of two or three inches in diameter will answer the pur-

pose,) using light, rich soil, and placing them in a frame, watering whenever necessary. In a very short time they will have filled the pots with roots, when they may be planted out in the beds prepared for them. Turning them out of their pots without breaking the balls of earth, pressing the soil closely and firmly about the roots, after which, with the necessary working, &c., they will make good, strong plants. It is not every strawberry grower who keeps his beds as clean as they should; and too often a strawberry bed is only another name for a miscellaneous collection of docks and grasses, with a multiplication of other plants, (interesting to the botanist) constituting a pavement of rank vegetation, which, in one year, becomes worthless to man and beast. We have this season fruited near fifty varieties, a few of which, for this location, may be called strawberries for everybody. We have also some which are strawberries for nobody, and some which are midway between the two, and should be grown by every genuine lover of strawberries. We saw specimens, during the early part of the season, which were grown for market—such worthless trash that we could not understand how the cultivators could offer fruit for sale, the flavor of which was similar to that of a raw turnip. This is more strange when we consider that some of our best flavored and finest varieties are the most prolific, and would pay much better even if they produced less in bulk, which they do not. The greater portion of those we have seen offered for sale this season, (and which we presume the market gardeners keep to themselves without difficulty,) are marvellous in their way. We think that every lover of strawberries should endeavor to grow "Jucunda" to perfection. We have never known it to fail of repaying most liberally for liberal treatment, even in localities not well adapted for the cultivation of the strawberry. Give it good land, of almost any texture, manure liberally, grow them in hills, and keep well cultivated between the rows, and you may expect a feast of strawberries of such flavor and size as will delight the most fastidious.

Those who fail to grow "Jucunda" should try "Triomphe de Gand," which, perhaps, is rather more hardy, and the flavor excellent. But I have yet to see "Jucunda" suffer in repute by the results of any experiments, under similar circumstances, by other varieties. "Fillmore," with us, is a most excellent strawberry. We think, one of the very best. It is very prolific, grows well, and very handsome. The berries are large, and when fully ripe, of a beautiful dark, crimson color, and the flavor—well, I am afraid to make the attempt to describe it. I will say

that, without sugar and cream, (which, we think, spoil good strawberries,) it is about all we desire. To those who doubt our statement, I say procure a stock, grow it well, and let us hear your own opinion of it, upon the condition that the berries are allowed to remain upon the vines until they are fully ripe; for it is doing it a great injustice to eat it before it has come to perfection.

"Russel's Prolific" we have not seen surpassed for size, which is one point. It was indeed a treat to see such as we were able to select for size picked from plants, which were planted during the month of October, 1866. It is abundantly prolific, and of a fine, sprightly flavor; such as is liked by those who are judges of what good strawberries should be, and that is another point. For hardiness, productiveness and healthiness, we consider it as good as most strawberries grown.

"Vicomesse Hericart de Theury" is an early, medium sized, solid, firm berry; color, superb; not as prolific as some, but one which we cannot give up; and think that every amateur should grow it.

"Trollop's Victoria" is a most deliciously flavored strawberry, a great favorite here.

"River's Seedling Eliza" is of excellent constitution; a very large, handsome berry, of a rich and beautiful flavor, and with us a great favorite.

In addition to the above we have upon our trial grounds upwards of fifty varieties, many of which we like very much, but must wait the result of another season before speaking with entire confidence of them.

Fruit trees, planted late in the spring, and not fully established, should be freely watered whenever the weather is dry, for over a period of ten days. Remove all ill-placed or crowded shoots upon them.

Remove suckers from currants and gooseberries, likewise those from fig trees. Thin out weak shoots of raspberries, leaving only from three to four at each shoot. Keep grape vines free from all useless wood, allowing plenty of air to the fruit, but not exposing it too much.

Peaches, apples, pears, &c., will soon require constant attention. Pick the various kinds as they ripen, and let the operation be done with care, for whenever any fruit is bruised it lays the foundation of premature decay. Where only a few peaches are grown, for domestic purposes, they should be looked over daily, and picked as they ripen, as a fall is fatal both to flavor and appearance if they have to be kept only a few hours afterwards. Not a day passes but in our fruit department we see many things which want

doing much sooner than we can do them as we would like to have them done. Much may, however, be done by system and without the qualms of being overworked. We fear mildew will be quite prevalent in all damp places, and do incalculable mischief if not timely checked. Sulphur dustings are the best remedies we know of; fresh air and cleanliness will undoubtedly do much to prevent it.

The Flower Garden.

Chrysanthemums, to bloom finely, will now require special attention. The beautiful class of this now popular flower, called Pompones or daisy-flowered, should be stopped for the last time. The large, flowering kinds should not be stopped any more. Whenever needful, place neat stakes to them, and those grown in pots should have the earth removed about one inch from the surface, and replaced with good, old cow or barn-yard manure.

For floral decorations in the house there are but few plants better adapted than the Pompones varieties, for which purpose they may yet be rooted and grown in four-inch pots in good rich soil; will make beautiful ornaments for the house during the months of November and December.

Bedding plants, as verbenas, heliotropes, geraniums, &c., can only be kept in good order by constant attention, removing all seed vessels, dead leaves and rank growing shoots. Towards the end of the month, cuttings of any of the above named plants, and of others which may be required for keeping through the winter, may be rooted in a shady place out of doors. Cuttings of the beautiful *Coleus Verschaffetti* planted now and carefully attended to, will make nice plants to mix with the chrysanthemums when in bloom in the house.

Annuals—the following kinds, planted at the end of the months, in rather poor soil, will stand the winter and flower finely during the early spring, at a time when there is generally a dearth of early spring beauties, white and purple candy tuft, collinsias, erysimums, eschiltzias, clarkias, convolvulus minor, godetia, rocket, larkspur, upinus, &c.

Hollyhocks will now require manure water to make them open their top buds well, and all choice varieties should be kept tied up to neat stakes. Save seed from the most double and best kinds only.

Liliums—as soon as the hardy kinds have done flowering, they should be taken up and all offsets removed, and the large roots planted again immediately where they are to bloom next year,

giving each bulb a spadefull of good, rotten dung. This is the only way to manage this beautiful genus of plants, in order to have them bloom finely every season. The varieties of lancifolium in pots should have an abundance of water until done flowering, after which the supply should be diminished, but not too suddenly. As soon as the foliage shows signs of decay, lay the pots on their sides on a warm, dry border, until the month of October, by which time the bulbs will be well ripened, when they may be shaken out and repotted.

Herbaceous plants, which are past blooming, may be divided, and many desirable kinds may be raised from seed for blooming next year. Many of the low growing Alpine plants may be divided so that each little tuft have a few fibres; if shaded and watered for a few days, will soon make fresh roots and form nice, compact plants to flower in the beds and borders next year.

The principal work in this department for the present month will be the mowing and rolling lawns, cleaning and regulating flower beds after heavy rains, which will consist in picking off decayed leaves and bloom. By picking out the points of geraniums, just above the flower bud, the trusses of bloom will be much larger. During wet weather some of the scarlet geraniums will become too massive for the flower trusses; our practice has been, when such overgrowth takes place, to disleaf quite freely, which has the effect of checking a too rapid growth. We have just been going over our beds, endeavoring to keep the plants in their right places, by pegs, &c.; this and pruning down some of the branches which had grown too high. The work, when completed, was, to us, very satisfactory, as to appearances. The few beautiful days which we have had has removed all effects of the driving wind and rain which we have had, and now, this evening, after being pleased with our flower beds, and having been told that our "circle" looked beautiful, we felt flattered, for *our circle* is of very limited area; but now the barometer is again falling—presaging another storm; if it come, the beauty of our circle will again be impaired.

Sunshine and showers!—such is life. The evening is sometimes dark—very dark; but not unfrequently the succeeding morn is bright and cheerful, and the flowers are again beautiful—transcendently beautiful. That Solomon, in all his glory, was not arrayed like one of them.

Mr. Dexter, of Langsgrove, Vt., has a calf that at 24 hours old weighed 128 pounds, and Mr. S. Carpenter, of Londonderry, a bull, 22 months old, which weighs 1400 pounds.

For the "American Farmer."

Immigration.

Having lived and owned estates in Denmark, Sweden, Germany and France, I am well acquainted with the character of the working class and small land owners of those countries. The Scandinavians are particularly desirable as immigrants, being accustomed to hard work, modest in their demands, and sober. There are two principal classes of immigrants: such as possess some capital and desire to acquire property, and such as have nothing, and are anxious to procure work. Both classes are equally important for our country. To the first class, our land-owners who desire to dispose of some of their land can sell; and the second class is particularly adapted to take the place of the laboring class we have lost by the war, (for it is of no use to disguise that the negro in his present state is worthless as a laborer in general.) Our first consideration should be to provide for the demand of this two classes of immigrants before their arrival here. Land-owners who desire to dispose of land, ought to give their names to the Immigration Society, stating location, quality and price of the land they want to sell. Planters and farmers desirous of obtaining labor, ought to register also their names at the office, stating where they live, and what terms they are willing to grant. In my opinion, employers would do best in offering, for the term of five years, a house and five acres of land, and take their rent in work, besides making contract for so many days work at a price suitable to both parties. Say for instance, a house, firewood, and five acres of land, are worth \$50 per annum, equal to 100 working days at 50 cents per day, or two days per week. By contract, the tenant would bind himself to work two more days per week for 50 cents per day. By such an arrangement each tenant would be equal to two-thirds of a hand, and the cash expenses of the employer be reduced to \$50 per annum. This cash may even be reduced by hiring to the tenant a team to work his land. Besides the landlord has the advantage of the labor of the tenant's wife and children in harvest. This system would undoubtedly be a great benefit to both parties, as mutual interest binds them together. The employer securing *reliable* labor for a small amount of cash, and the tenant securing a home, where he, by industry, in the course of a few years, would be able to save enough to start for himself if desired.

With regard to transportation over the ocean, the present steamship line between Baltimore and

Liverpool would meet the demand as far as England, Scotland and Ireland are concerned; but, for immigrants from the continent, there ought to be a line established between Gottenburg in Sweden, and Baltimore, or a line from Gottenburg to Liverpool, to connect with the Liverpool-Baltimore line. A direct line from Gottenburg would have the advantage, that, as an emigrant ship has to take in ballast, iron might be taken from Gottenburg and almost pay the expenses of the ship, enabling the Immigration Society to give free passage to immigrants not able to pay their passage. Furthermore, there ought to be a line established between Bremen and Baltimore, for the accommodation of German immigrants. Also, this line would be profitable, as the traffic between Bremen and Baltimore is large. The expenses of the Immigration Society would be amply covered if every planter who received laborers or land-buyers through the society, paid a tax to the society of \$10 per family or single laborer. Suppose only 300 emigrants arrived per month, would make \$36,000 per annum. Accommodation and expenses for the immigrants ought to be very small. As soon a ship arrives, agents of the society ought to board her, take a list of the immigrants, with a statement of their vocations and desires, and instantly ship them to their different destinations, prepared for them before hand, under the care of other agents of the society.

L. A. HANSEN.

Clifton, Fairfax Co., Va., June, 1867.

NEWBERN, N. C., June 22, 1867.

Editors American Farmer:

GENTLEMEN: Enclosed I send you two dollars to renew my subscription for the next year. I have carefully preserved every number of the "Farmer" (except two or three which I never received before the war) from the beginning of my subscription up to now, every year bound (in my rude way) to itself. I have been very much interested by different articles in the "Farmer" on the cultivation of the different grasses, especially clover and timothy. I have always had an idea that our climate was too hot and dry for the successful growing of the cultivated grasses, but from accounts I see in the "Farmer" from different persons in the South, and from a few experiments I have seen tried around here on a small scale, I think they would probably succeed very well, especially where the sub-soil is clay, as it is almost all over my (Craven) county. I have now got my farm all reclaimed from the wild state in which I found it when I

returned home at the close of the war, and I now propose to introduce something like order and system in my farming arrangements from now henceforth, if I can keep upon my feet long enough to do so. I have about two hundred acres of cleared land on my farm, which contains about six hundred and fifty acres altogether. I propose to divide my two hundred acres into four fields, and plant as follows: first, cotton; after cotton sow peas broadcast; then sow, in October, winter oats with clover; after clover, cotton again, putting all the manure on the cotton, which is the staple crop. I expect to be able to clear new land enough every year for what corn I may need; and as for wheat we have no mills for grinding wheat in my section, consequently it is no use to raise wheat at all. I do not know but it would be better to plant the peas in narrow drills, and give them one or two workings with the plough. I have a small field of ten acres on the river, now in cotton, which I intend to sow in timothy and clover, with oats next spring, for a permanent meadow. I may be disappointed with the clover and timothy, as I have never seen it grow on my farm, except a few straggling blades, which have come up volunteer from seeds dropped from some bales of Northern hay which I have been compelled to purchase for feed.

Yours, &c.

F. N. HARPER.

For the "American Farmer."

VIRGINIA, JUNE, 1867.

[LETTER TO A FRIEND.]

DEAR: In the *American Farmer* of this month, I am informed by our friend, Mr. Hansen, that his experience teaches that you may have no fear of not being able to summer your cattle on an acre and a half, and that they will not suffer detriment from being stabled the year round. I say "our friend," though I have never seen him in all my life, and possibly may never have that pleasure. Every man is my friend who tries to do me good, and this Mr. H. will do all of us if we will attentively read his articles published in the *American Farmer*, which I am sure you and all young farmers, who are trying to succeed, take and read. I am anxious for its wide-spread circulation from personal considerations to its editor; but far above all, because I believe all of its thinking readers will be advantaged far—very far beyond its cost.

I greatly fear that my friendly joggling about politics has done you no good as yet. I hope, however, the effort will not be utterly lost, and that you will "possess your soul in patience," hoe

corn, weed potatoes, hill tobacco, grow grain—trust in God, he will order all things right, and let all other temporal matters “slide.” We farmers can’t afford *now* to idle away our time—we must be up and a doing; and if we will quit ourselves like men, we will reap a far richer reward than if we had “listening senates at our heels.” Don’t let the grass get ahead of you; keep all your corn land perfectly clean from the start, and if you keep in good tilth by the constant use of your cultivators until the corn tassels, you may whistle at all the harm grass can do you afterwards. But woe—woe unto the luckless wight who slumbers and sleeps while the grass grows. One acre in a grassy corn field will cost five-fold *more labour* than one that is clean, and the corn will be dwarfed, and the yield shortened. I like to work my land before I plant corn, the afterwork will then be pastime; plough deep in the fall and winter—roll and harrow in the opening spring—refallow lightly—harrow and cross harrow—plant. So soon as up, run your heaviest drags over each row, this will work out all the grass. When high enough not to be covered, take out the front tooth of your seven-toothed cultivators, and straddle the row; and then with your single horse cultivators work away until the corn tassels, then you may rest and wait for harvest; but until this time, so soon as you have gone over a field, don’t stop to rest, but start again. I never use a turning plow, unless neglect or laziness has allowed the grass to get the inside track of the corn, and above the capacity of the cultivators. By keeping your corn land in good tilth and level with the aid of the Star Drill—a new invention—you can get wonderfully ahead in your fall seeding if you propose to seed wheat on corn land. I would not advise you to do this, however; sow rather at your last corn working rye for winter grazing for your sheep, and early in the spring for your stock. The “Star Drill,” if it fulfils its claims, supplies exactly the very thing I have long desired, and I have made an effort to secure one by fall. I anxiously await the report of its trial at the Maryland Agricultural College shortly to occur. The harrow will not get the wheat in properly. I have given three dressings, but the result has always demonstrated that broadcast sowing cannot compete with drilling; and yet I have not altogether fancied the drills we have had, of which, however, Pennock’s I always liked best. I bought one, years ago, upon the recommendation of Edward Stabler, Esq., of Maryland—I trust he is yet alive and prospering—and though I was afterwards persuaded to buy a later style,

upon a short trial I returned to my first love. The remnants of these drills stand in my barnyard, memorials of the “havoc of war.” If you have no drill, rather use your cultivators than the harrow. On drilled wheat, or that put in by the plough or cultivators, you can put your sheep earlier than on that got in with the harrow. Last spring I noticed that my sheep in nipping at the blades of wheat put in with the harrow, pulled up a great deal by the roots. I graze my wheat and oats (fall seeded) close with sheep and calves, but keep off all other kind of stock. Hereafter, as in a former letter I told you, I shall graze nothing but sheep. I shall seed rye with the corn at its last working, and turn in the sheep late in October, and keep them on it till the wheat and winter oats are well rooted, afterwards they are returned to the rye, and kept until the middle of April, when the pastures are sufficiently advanced. The rye having been seeded for winter pastures, I regard its yield in grain of small importance, though in ordinary years it will pay for seed and cultivation. A bushel of wheat to the acre, *drilled* on rich land, if sown early, from the 25th of September to the 10th of October, is sufficient, as your seeding is deferred to a later period more seed will be required. Poor land needs *more* seed than rich, for it will not “tiller,” or “branch,” as some call it. More seed is required in broadcasting than drilling. The seed is more regularly distributed, and at a more uniform depth, and there is generally an increased yield, in drilled over broadcast seed.

I can’t recommend a threshing machine to you. Mine has been in use seven or eight years. I purchased in York, Pa., of Dingee & Co. The power is a Pelton. I know of none better than mine. The concern dissolved years ago. If you have the money, buy a thresher and cleaner combined. It saves labor, and hastens your grain into market, two grand items these days, when freedmen “round here do congregate.” I would rather my grain should be in the mill, and the money in my pocket, than in the barn or fields, subject to *raids*, and liable to other losses. As a general thing, the wheat *earliest* in market commands the best price. The early bird will then catch the worm. In seasons of great scarcity, the reverse holds good. I think it will be so this season. The public have been deluded by reports of *immense* wheat crops in *future*—in the very far future I opine. From all the information I can gather, the crop *will not* be an average one. Such, I am sorry to say, will be the case of mine, guano and bone dust to the contrary notwithstanding. If your wheat is clear of all

onions, cockle it *id omne genus*—sell it for seed. *Seed wheat will be high.*

I have no "rare ripe" corn—I wish I had. I do not know where any *pure* can be had. I would willingly have given five dollars a bushel for seed this planting. It makes the best meal and hominy I ever saw. I lost the seed during the war.

Yours truly, S. B. F.

The Manures of the Present Season.

From Edinburgh Journal of Agriculture.

Dr. Hodges read the following paper on this subject at the usual Monthly Council Meeting of the Chemico-Agricultural Society of Ulster, held at Belfast on the 3d of May :

It is gratifying to find that in the present year the quality of the artificial compounds provided by the manufacturers of manures is in almost all cases deserving of approval. The economic manures and other fertilisers of the same class, which were so frequently in former years forced upon farmers with the love of low price and innumerable certificates of excellence, are now almost entirely banished from the markets of Ulster.

Though I do not place much confidence in the description of testimonials nor on records of experiments which are so abundantly distributed by some manufacturers, yet I would be glad that some of the members of this society would from time to time report at our meetings the results of their trials with the manures advertised in this county. We do not want to know how certain compounds succeed in Norfolk or Ayrshire, but trustworthy reports of the profits obtained from their application in our northern climate and on our Ulster soils would be exceedingly valuable.

The influence of climate upon the action of artificial manures, though of great importance, seldom receives adequate consideration. It is not sufficient, as Liebig has clearly pointed out, to enable a plant to attain its maximum development, that the soil affords it in an available form the whole quantity of all its constituents ; the cosmic conditions—viz., heat, moisture, and sunlight,—must co-operate to transmute the absorbed substances into the organism of the plant.

If the substances that have passed from the soil into the plant, no matter how skilfully compounded, cannot be turned to account from the want of this co-operation, the plant does not come to perfection. Whilst the artificial manures examined in the laboratory have in general been of good quality, it is to be regretted that the farmer's valuable auxiliary, guano, has not maintained its ancient character, even when sold by respectable houses. The samples received exhibi-

bit a very large proportion of comparatively worthless or adulterated materials, while in genuine guano we find a very small amount of sand and earthy matters.

COMPOSITION OF SOME SAMPLES OF GUANO LATELY EXAMINED IN THE LABORATORY.

| 100 parts of each contained respectively— | | I. | | II. | | III. | | IV. | | V. | | VI. | | VII. | |
|---|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Moisture..... | 18.54 | 16.50 | 17.80 | 11.50 | 31.1 | 39.64 | 33.90 | 31.1 | 39.64 | 33.90 | 31.1 | 39.64 | 33.90 | 31.1 | 39.64 |
| Organic and ammoniacal matters..... | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 | 27.02 |
| Phosphate..... | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 |
| Carbonate of lime..... | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 | 14.63 |
| Sulph. of lime (gypsum)..... | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 | 9.17 |
| Alkaline salts..... | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Sand..... | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| 100 parts of each..... | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| Capable of yielding ammonia.... | 10.01 | 10.46 | 11.7 | 9.36 | 2.5 | 4.7 | 6.1 | 10.01 | 10.46 | 11.7 | 9.36 | 2.5 | 4.7 | 6.1 | 6.1 |
| Estimated value..... | £8, 8s. £8, 13s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. £10, 2s. | | | | | | | | | | | | | | |

Of the samples 5, 6, and 7, only partial analyses were made. They were found to be poor in ammonia, and to contain a considerable amount of carbonate of lime (pulverised limestone), and to be worth not more than about £5, 10s. per ton.

A glance at the above table will be sufficient to show the large amount of comparatively worthless substances which all the samples contain, and how great their inferiority to the genuine Peruvian guano formerly imported. Yet some of these guanos are sold under the name of Peruvian; so that it behoves the farmers of the north of Ireland carefully to ascertain the real value of any sample offered for sale. I have already on several occasions considered it my duty to warn them that it is a not unusual practice for some dealers to present an analysis of a good specimen of guano, obtained sometimes five or six years ago, as representing the character of an entirely different quality of manure. This is not unfrequently done, and the purchaser is induced to buy, it may be, a Liverpool or London compound at the price of good Peruvian. Purchasers should therefore look at the date which is affixed to all analyses issued from the laboratory of the Society.

With respect to the estimation of the money value of manures by chemists, there exists some difference of opinion, and by some analysts it is considered that it should be abandoned, whilst admitting that there may be occasionally inconveniences from the difference in the system of valuation which are adopted in different countries, yet as the method which I have always followed, and which may be found fully explained in my work on Practical Chemistry, is I believe, based upon sound data, and adapted to the estimation of the relative money value of the fertilising compounds offered for sale in Ireland, it will serve to afford purchasers, sometimes not quite familiar with the statements of an analysis, a safe guide in enabling them to protect themselves from imposition and loss. According to my system of valuation the estimated value per ton of the genuine Peruvian guano, such as was formerly readily to be obtained from several Belfast houses, is £13.10. The best sample given in the table, by the same method of calculation, is found to be worth only £10. 2s. per ton.

Last week I received from Robert Gordon, Esq., J. P. Highlands, Seaford, a sample of guano which presented all the characters of the genuine Peruvian, though not equal in quality to that some years ago offered for sale. It contained no adulterating ingredient, but the ammonia amounted to only 14 4-10ths per cent, instead of from 16 to 17 per cent. 100 parts of Mr. Gordon's sample consisted of—

| | |
|----------------------------------|--------|
| Moisture | 16 86 |
| Organic and ammoniacal matters.. | 45 94* |
| Phosphates | 22 12 |
| Alkaline salts | 11 58 |
| Earthy matters | 4 50 |
| | 100 00 |

HORSES FEET REQUIRE MOISTURE.—Nine-tenths of the diseases which happen to the hoofs and ankles of the horse are occasioned by standing on the dry plank floors of the stable. Many persons seem to think, from the way they keep their horses, that the foot of the horse was never made for moisture, and that, if possible, it would be beneficial if they had cowhide boots to put on every time they went out. Nature designed the foot for moist ground—the earth of the woods and valleys; at the same time that a covering was given to protect it from stones and stumps. —*Ohio Farmer.*

SHORT WAY TO CURE WARTS.—Heat an iron a little red, and sprinkle a little rosin on the wart, then apply the iron.

*Capable of yielding ammonia, 14.4 parts; estimated value, £11, 11s. per ton.

Wood Ashes for Manure.

We recommend the farmer carefully to save for use in the spring all the ashes he can collect from the home consumption of fuel during the winter; and where he has opportunity to procure them from other sources a supply, leached or unleached, of this valuable fertilizer. If people knew from experience the worth of this simple manure, there would be no ashes wasted, neither would there be any to sell, except by those who have no soils to improve, or no crops to raise.

To return all their virtue, it is highly important that ashes should be kept dry; for water will dissolve a large proportion of the most valuable salts, yet even leached ashes need not be thrown away as of no account; for, though far inferior in fertilizing qualities to unleached ashes, they are by no means useless. One very important result of the employment of this manure in the growth of cereals is the increased strength and luxuriance of straw thereby promoted—a result due to the presence of Silicates on which so much of stiffness of the straw depends. Other ingredients, essential to both straw and grain are furnished by this important fertilizer. Ashes are valuable also for promoting the growth of grass; and Professor Liebig recommended sowing them broadcast on meadows to increase the quantity of hay.—*Canada Farmer.*

The Golden Pheasant.

We are surprised that greater interest is not manifested in breeding this rare and beautiful bird. There are many situations where it might be raised in considerable numbers, and be made a source of great attraction to say the least. This bird is a native of China. It is naturally wild and cannot be tamed so as to behave like our domestic poultry. It generally has to be kept in aviaries or in confinement. The cock may be mated with five or six hens. The English books say that it is necessary that he should be two years old, but that the hen will breed at one year old. This is not so; Mr. Campbell, of Westboro', has four golden pheasants. The pullets began to lay at about eleven months old, the cocks being at the same age. The eggs were set under a common hen, and some of them have hatched, coming out strong, and apparently as lively as any other chick.

The young hen will lay about a dozen eggs, but more mature birds have been known to lay forty eggs. The egg should be removed from the nest every day, as the males are apt to destroy them unless this precaution is taken. Imitation

eggs may be given them instead. The hen pheasant sits twenty-four days. The young are easy to rear, and quite as hardy as common chickens. They must be frequently fed on curd, hard boiled eggs, cheese, canary seed, bruised hemp seed, the grubs and larvæ of insects and ant's eggs. Wheat, hemp and barley are the best food for the old birds.

The cock does not assume his full plumage till the second year, when the head is ornamented with a silky crest of fine amber yellow. The feathers of the back of the head and neck are square, disposed in scales, and of a rich orange-red, edged with a line of black, and capable of being raised at will; lower down, so as to encroach upon the top of the back, is a space of dark glossy greenish feathers, with rounded edges, disposed scale-like; the back is rich yellow, as are the upper tail covert, with a crimson border; the tail feathers are mottled with chestnut and black; the wings are deep blue at their base; quills and secondaries brown, with chestnut bars; the whole of the under surface intense scarlet. The female is of a rusty brown and less attractive.—*Massachusetts Ploughman.*

The New York State Sheep Fair.

On the 8th ult. the 3d annual Fair of the N. Y. Sheep Breeders' and Wool Growers' Association was opened at Auburn, says the Auburn Advocate. The following entries are mentioned:

"Wm. R. Sandford, of Vt., two rams, "Killpatrick" and "Blucher," the former being valued at \$12,000 in gold, and the latter \$10,000 in currency; Mr. Freeman, of Bemis Heights, N. Y. with the celebrated "Dew Drop;" Mr. Wing of N. Y. City, with 5 coarse-wooled sheep, said to be the best in the United States; Mr. Holmes of Saratoga Co. with 5 fine animals. John Lynch, of West Brighton, exhibited 6 good Southdowns, of the kind first imported by Jonas Wall, and the latter by Mr. Thorn, of Dutchess Co. Isaac Bower, North Chili, two Paular Merinoes, with fine, long wool, called the broathcloth sheep, the fleece of which brings in the market from 10 to 15 cents more than shorter wool. Another from his flock, a Robinson Paular, of fine, delaine fleece, is valued at \$500; the other two \$200 each. H. A. & H. Miller, of Greenwich, exhibited a beautiful Spanish Merino ram, "Young Dictator," by Percy's "Gold Mine," Hammond ewe, bred and owned by the exhibitor, valued at \$500. One of "Dictator's" daughters was with him, a little pet, only six weeks old, and worth \$125. The second day, like the first, was rainy. Friday, the third and last day, was a success; the attendance was large. Some of the finest sheep were sheared.

Portable Hen Houses, and their Usefulness to Farmers.

[From *Edinburgh Quarterly Journal.*]

In our recent articles, "Vipers" and "Talpicide," we strenuously contended for the utility of hedgehogs and moles, to the great indignation, we daresay, of sundry gamekeepers and farmers. But "truth is mighty, and will prevail." We have persuaded several agriculturists to try the experiment of letting the moles alone for one year at least, and to send for us in order that we may have the opportunity of inspecting any damage chargeable on them. Having asserted that our moles are not addicted to work in the line of the turnip drill, and that when they happen to take that direction, plants enough to insure a crop have always been left, a friend assures us that the mole's doings have repeatedly played havoc with his turnips. But the query may be put: "Would he have fared better if in his fields there had not been a single mole?" The moles were attracted by the grubs; if he had had no moles he would have had more grubs. With more grubs would he have had more turnips? The summer before last, our turnip-field had hardly any moles, and the grubs cut so many of the young plants close to the ground that the blanks were annoyingly numerous.

Moreover, a large farmer in Forfarshire, after reading "Talpicide," not only resolved no longer to kill moles, but informed us that during twenty years' experience he never saw turnips thrown out of the drill in consequence of the mole's pursuit of insects. We still maintain that the mischief alleged against them is exaggerated, and abundantly compensated by their remarkable talent for insecticide.

But, as the progress of truth and humanity is slow, we must allow our agricultural friends a little time to read, mark, and inwardly digest our plea for moles.

As we are open to conviction, we have resolved faithfully to report any charge they may make against our *protéges*.

We fear we are again about to shock the notions of farmers by gravely inviting them, if they won't patronize moles as grub-slayers, to employ their hens in this much needed office.

Of course, we all know how assiduously fowls follow the plow for the purpose of picking up all sorts of insects, and especially the detested "grub." But it never occurred to any of us to afford a hen facilities for fattening on our foes, by removing her to the different fields according to their condition varying with the seasons. At harvest-time we have the sense to facilitate the

toil of the reapers by conveying them in carts to the scene of their sometimes distant operations; but to send a hen in a portable house to live for months in the fields, and for the purpose of enabling her systematically to rid us of all sorts of farm pests—this is an idea quite new; and yet so natural, that it is marvellous that it never occurred to us! Here we are, with the nineteenth century of grace far advanced, and with the world near its end according to Dr. Cumming, and yet, till light dawned on the inquisitive mind of M. Giot, a farmer at Chevry, (Seine et Marne,) the idea of "Le Poulailleur Roulant"—a hen-house on wheels—seems never to have entered the agricultural mind.

Smitten with the laudable ambition of bringing about the good time coming, when every Frenchman shall have a fowl in his pot, and of effecting this blessed change in the physical condition of his compatriots, by "entering into the views of Providence," M. Giot takes pen in hand, and writes like a *litterateur* and a *savant* upon the novel theme of the natural connection betwixt hens and harvests.

Before they have done with our account of his sagacious and economical mode of feeding fowls in the fields, we rather think that, reflecting on the comparatively unprofitable lives of British hens, not a few of our farming readers will confess that they have learned something new and worth the knowing. Let them look at that old omnibus located in a field, and fitted up with perches and nests, and however widely they may open the eyes of astonishment at such a machine, containing a multitude of fowls sent to pick up a living *gratis*, and be at the same time most effective destroyers of insect pests, they cannot oppose this novelty on the score of expense.

At first M. Giot was laughed at for talking of a portable hen-house costing a thousand francs, and needing the attendance of a watchman and a dog to look after it during the night. But the discovery has been made that any rough sort of an affair upon wheels, and capable of being shut, will answer the purpose, and that the system may be carried out on so small a scale that a dozen of hens conveyed to the land in a covered wheelbarrow will do a great deal of good. Placing it in a vineyard or a field, the owner of it may pursue his work in the assured confidence that the hens will attend to *theirs*, and show no desire to forsake their temporary house on the wheelbarrow.

But we must expound the *rationale* of M. Giot's procedure. He is a humane man and a philosophical. He argues that we must not denaturalize the habits of hens. A hen shut up in a court

and fed upon expensive grain is out of her element. She, an insectivorous bird, never sees a grub or a worm, and has only the rare chance of getting hold of a spider or a fly. Meanwhile the food provided for her in the fields is there in abundance; the innumerable insects which vex the farmer gain the mastery, because not only are fowls shut up, or only accustomed to frequent the fields near the farm house, but all sorts of insectivorous birds and animals, such as moles and hedgehogs, are senselessly killed. And so, instead of the proper distribution of the good things of this life, grubs for fowls, &c., and grain for man and the domesticated animals, we witness the deplorable spectacle of cultivated fields ravaged by full-fed insects while men are half-starved, and agricultural is about the most slenderly remunerated of those avocations which demand the possession of capital, and the assiduous application of intelligent industry.

It cannot be questioned, we believe, that the more the farmer avails himself of natural auxiliaries in the raising of his crops, the more abundant these will be; so that if his fowls be among the number of them, he ought to consider how they can be made to do him most service. It is notorious that he denounces them as a sort of necessary nuisance, which must be submitted to because poultry is prized by certain classes, and almost everybody is fond of eggs. He holds, nevertheless, that "they are bad farmers," that they don't "pay, and that he would be wise to have none of them," &c.

But M. Giot, a farmer and a man of sense, who can weigh the *pros* and *cons* of a question affecting his calling, tells quite a different story; asserting that in the interest of agriculture we ought to direct the insectivorous habits of fowls, which naturally ramble about in search of a living, and are only mischievous at seed-time and harvest; and that the very simplicity of his plan of managing is the reason of its having been overlooked, according to our custom of searching in the clouds for what is under our feet.

That is putting his case very strongly, no doubt; it is in fact saying that farmers heretofore have had less sense than their hens. And yet we are hugely afraid that such is the fact. M. Giot "craws and crouse"—not on his dunghill, that time honored stronghold of farmers, but on his hen-house in the fields—that we really do not see how to quiet him unless by chiming in with him; on the principle of the accommodating old lady who maintained that the way to overcome temptation was to yield to it.

Who can deny that a hen is of the nature of

a bird, and that, if left to herself, she prefers to live upon insects, and that she is in the greatest vigour and enjoyment when wandering about in the fields during the spring and summer months, picking up a worm here and a grub there? If the agriculturist grant M. Giot this position, he must surrender at discretion, give up his ancient aversion to fowls, and furnish them with the means of conveyance to all parts of his farm, to the amazement of his delighted spouse, rejoicing in basketfuls of eggs, costing next to nothing, seeing that foraging fowls get no corn, save on Sundays and festivals, or, as in Scotland they are termed, fast days. And having surrendered, he will listen with due reverence to M. Giot when thus holding forth:

"This discovery will explain to you why the crops are generally better in the vicinity of farms than in the open country; and, reflecting, you will come to think it a sin to allow insects to devour what a gracious God intends for human beings, and you will come thoroughly to approve of my portable hen-house, transported from field to field during the fine weather, protecting them against the periodical attacks of insects, and taken back to the farmyard during the cold season of threshing, which is also the time for housing fed animals, in order that the fowls may pick up in the straw and the dung heap lost grain and stationary vermin. It is in the fields that we get the best eggs. It is, therefore, in the open air, and almost without spending a penny, that we should rear our fowls; and here is the way to proceed: As soon as spring returns, the portable hen-house should desert the farm and encamp among the young wheat which the grub is destroying, and among the ploughed land, instead of women gathering, at a great price, grubs behind the plough, as is the present way; then among the sowings in March, the colza, &c. which are devoured by worms and other creatures; and then, further on, at the approach of the time of the plants flowering the caterpillars, the spiders, the aphides, the beetles of all sorts, afford plenty of food to the fowls, which they also find in the natural and artificial grasses after the first cutting. To these immense natural resources must be added the occasional invasions of larvae, grasshoppers, butterflies, cockchafers, crickets, locusts, fieldmice, shrewmice, toads, lizards, snakes, even, &c., as well as the dead animals of the farm."

There is no doubt that fowls reckon these creatures, a dainty dish to set before a hen, and that fowls having them in abundance in the fields will enjoy such a fete champetre, lasting in France, at all events, nine months of the year; and it is equally undeniable that fowls, living

such a natural life, will be healthier and better layers than those cooped up in courts, or restricted in their rambles to a field or two in the vicinity of the farmhouse. They will devour immense multitudes of noxious insects, and pick up large quantities of grain which escape the notice of even the most careful gleaners. It is also to be borne in mind that their droppings go at once to enrich the soil.

We have already mentioned that M. Giot has simplified his system. Instead of one large machine he now prefers two portable hen-houses, each containing two or three hundred fowls.

As they do not follow the plough for more than 300 yards, he finds it better to limit the number of fowls in proportion to the ground over which they have to travel, and to form them into two bands rather than into one great flock. The care of them, when in the fields, is neither troublesome nor costly. A ploughman is charged with the duty of carrying a barrel of water, and a basket to collect the eggs for the day; he opens the doors of the hen-house in the morning, shuts them at night, and brings home the eggs. And anything on wheels, however roughly the planks may be put together, will answer the purpose.

M. Giot had for a while to submit to be laughed at; but his zeal and patience have converted derisive opponents into admiring friends, so that his system is now lauded by editors of agricultural journals, who accepted his invitation to take a run by rail from Paris to Chevry, in order that by personal observation they might satisfy themselves as to the usefulness of his system in keeping down the white-worm, as the French term the grub of *Melolontha vulgaris*, or cockchafer. M. Giot had previously informed them of the peculiarities of his agricultural position.

Commencing farming in 1844, he found his land mostly in fallow, and not much infested with white-worm, which does not thrive on a hard fallow. But now that the land is thoroughly cultivated on the flat by means of the Brabant plough the softer condition of the soil so favoured the development of this insect pest, that in self-defence he was obliged to think of attacking it by an auxiliary which he believed might be found in his fowls, if permitted and encouraged to gratify their instincts instead of being restricted to the limited bounds of a farmyard. M. Joigneux accompanied by two editorial colleagues, has published an account of what he saw.

He begins by mollifying M. Giot by the confession that he had wronged him by his scepticism as to the value of his system, and by complimenting him on his courage in breaking through the trammels of routine, and persevering

in opposition to the sorry jokes of the incredulous. He then proceeds: 'We do not laugh now; we have just seen the 400 hens of two portable houses advancing in the furrows along with the plough, and so thoroughly ridding them of white-worms and other insects that none can be discovered where the fowls have been. The fields are long; the population of the two hen-houses form two camps—here the common fowls, there the Houdan. Each troop has its assigned space, and works in it as if the matter had been regulated by special compact. One of the houses was on the old model, as exhibited in the district shows, but the watchman and his dog are now dispensed with as needless. The other is an old omnibus bought in Paris, with the seats removed, and replaced by nests and perches for its present occupants, the Houdans. The houses are placed across the furrows, and the doors are open. When in the way of the plough they are shifted; and when the field is finished, two horses are yoked to each of them, and they are taken to another place.

The fowls work all the year, and are only brought back to the farm in winter. There is no difficulty in managing them. As to food, there is no occasion to be troubled about it unless during continued rain, which rarely happens. The fowls of M. Giot, thus reared in the open air, are hardy, lively, and free from all the diseases of those living almost in a state of captivity. They give plenty of eggs, and furnish a considerable quantity of manure, which is carefully collected in a box under the hen-houses. Our readers will understand that brood-hens cannot in it receive proper attention, and that they are removed to the farm."

Equally satisfactory is the report of M. A. De Lavalette, who seems to have paid particular attention to the effect of insect diet upon the laying power of the hens, and upon the quality of the eggs. He estimates that 400 fowls may daily destroy 200,000 white-worms, which, becoming so many cockchafers, ravage beautiful trees, and lay eggs which will become a host of white-worms. And, he exclaims, 'we are astonished at these creatures destroying our crops!' The portable hen-house is thus of importance in an economical point of view. Supposing 400 hens to lay 200 eggs daily, this is a gain of 12 to 15 francs, realised without expense; and, on the other hand the fowls grow, gain more flesh, and so become more valuable. If it be objected that the eggs of fowls fed on white-worms must be bad, like those laid by fowls which eat silkworms, we say, let us first make a distinction. Silkworms given to fowls are generally those which have died from disease, or are sometimes in a state of putrefac-

tion. It is not so with the white-worms, which are swallowed alive and vigorous, and which, therefore, do not produce the same results. To enable us to form an opinion on this point, we requested Madame Giot to give us at breakfast two lots of eggs boiled in their shells, the one from the portable hen-house, the other from the farm. We must say that the guests found the eggs from the farm the more delicate, but that the others were excellent, and that the shade of difference was hardly perceptible when the two sorts were presented in a dish or in an omelette.

M. Giot also directed attention to the circumstance that the yolks of those from the field hen-houses were much superior to the others, and that one was equal to at least three of these for making sauces. We must not, then, be repelled by the notion that eggs so obtained are bad. One not made aware of it would not observe the difference; and very often have we eaten worse eggs in Paris.

As to the flesh of the fowl, we need not trouble ourselves about that; for even if it acquired a peculiar flavour, or lost its delicacy, this could be remedied by the fowl being treated to a special diet for a few days before it was eaten. We cannot too earnestly advise farmers to procure portable hen-houses, of sizes proportioned to the extent of their lands.'

Having thus furnished our farming friends with a new foreign notion, we pray them to remember that in France the gain from poultry and eggs goes far to pay the farmer's rent, and that the aggregate value of these productions, so largely imported into this country, figures conspicuously in the statistics of French agriculture.

D. E.

The Department.

Mr. Moore, of the *Rural New Yorker*, recently visited Washington, and says:

One of my first visits, after calling upon Commissioner of Agriculture Newton, was to the Government Botanical Garden, of which Mr. Wm. Saunders is the capable Superintendent, (under Com. Newton,) and the Experimental Grounds, also an adjunct of the Ag'l Department, superintended by Isaac Newton, Jr. The Garden has been greatly improved since my last visit, two years ago, and is a credit to Mr. Saunders and the Department. The fruit and ornamental trees, shrubs, grape vines, green-house plants, flowers, &c., are numerous and most healthy and flourishing—many exotics, but in fine condition. Whatever may be said of the Ag'l Department, I am of the opinion that Mr. Saunders is "the right man in the right place,"

and any horticulturist or florist visiting Washington can readily discover that the Botanical Garden is an interesting and useful institution.

The Experimental Grounds are likewise interesting and worthy of a more extended notice than I can now give them. Here I saw over one hundred varieties of wheat growing—from 2 to 31 inches high, the latter a Russian variety,—also including Alsike, Chinese, and many others—curious and interesting. The grounds also embrace plots comprising different varieties of peas, roots, cucumbers, and other vegetables, sorghum, &c., many of them rare, and likely to prove of value to the farmers and gardeners of the country.

Philadelphia Butter Dairy.

A Philadelphia merchant who keeps a large butter dairy in the noble land of Chester, relates his views on the same to friend Morris of the *Practical Farmer*.

Early in the season when the cows are first turned to pasture the grass is watery, and tends to make the cows scour very much; and although it will in that state increase the flow of milk and also the quantity of butter, yet it will be at the expense of the condition of the cow, reducing her in flesh, and telling upon her the whole season. At this time I consider it important that the cow should be fed with shipstuf or bran and cob meal, mixed night and morning. This not only assists in preventing scouring, but by keeping up the condition of the stock, increases the quantity of the butter to a very considerable extent. My opinion is, that meal fed at this time pays better, certainly as well as at any other time during the season, not excepting in mid-winter.

I am well satisfied that the condition of the cow, in order to obtain from her a full yield, or one that will be profitable, must at all times be looked to. She must be well wintered and fed, so that when she comes out of the barn yard in the spring after having calved, she is in good flesh showing her keep and care taken of her, and not like what is too much the custom of the country, viz: dry cows, wintered on straw, and no shelter except it be the lee side of the barn-yard, until the calf is dropped, when it is too late for the poor in flesh cow to yield her full capacity.

A cow should at all times, when milking be fully supplied with meal; not stimulated to excess, however, for that would certainly produce reaction afterwards; but she must have a full and plentiful supply at all times of good food and water. For that purpose I have grown early rye

to begin with in the early season, before the grass is sufficient to turn out on; then after harvest, during the dry weather, when the pasturage becomes short, Hungarian grass, to be followed with corn sowed in drills for fodder, which cut morning and evening, and fed to the stock whilst milking, fills them twice a day and, with the pasture, makes them all that is required. During the last season, whilst it was necessary to soil with Hungarian grass and corn for fodder, we have also fed two quarts of ship stuff each night and morning, as we feel satisfied that, although the Hungarian grass and green corn will keep up the yield of milk, yet they will not alone make as much butter as a full supply of pasture or the natural grasses.

I look upon a cow as similar to a steam boiler; no matter how good they may be, unless the boiler is well supplied with water and good fuel, also well attended the supply of steam will be short, or it will be in proportion to the fuel and attention. So also with the cow: no matter how good she may be, if she is not well and plentifully fed and cared for, her product will be shortened.

Another important matter with cows is that they should be protected from storms and bad weather. They should be fed and kept under shelter when the nights are wet and inclement; this more particularly in the early season, when the cow is fresh and full of milk: one exposure to a cold wet night has frequently reduced the milk one-half. Also in the fall when the nights become frosty, never let them remain out; be particular to stable them: and in the morning never turn them out on the pasture until the frost is melted off by the sun, as nothing, perhaps, dries a cow or reduces her milk more than eating grass with the frost on it. To many of these requirements the generality of farmers pay no attention whatever. In the early season, as soon as there is any pasture whatever, the cow is turned out of the barn-yard, to eat what she may find, and to remain day and night until the winter comes; there is also nothing grown or fed to eke out the scanty supply of pasturage that almost invariably occurs at some time in each season.

My cows are principally pure and grade Alderneys, with a few good grade or common cows.

I have never kept any but a pure Jersey bull. In another year I do not expect to have any but pure blood and grade Alderneys, as, from actual trial and experience, let what will be said to the contrary by others, I am well satisfied the Alderney and its crosses are the most profitable stock for the butter dairy.

The American Farmer.

Baltimore, August 1, 1867.

TERMS OF THE AMERICAN FARMER.

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BALTIMORE.

SUBSCRIPTIONS.—Our thanks are due to friends who have so promptly complied with our terms by their remittances during the past month. From the large number of letters received, it is gratifying to be able to say, that we have not a word except of kindness and encouragement. We are well assured that the *Farmer* is appreciated, and is doing its work efficiently. It has not been our policy by strained efforts to get a subscription list of reluctant contributors, but to have our Journal stand upon its merits, whatever they may be. The class of men whose names are on our books, are, we have reason to think, of the very best which the Agricultural community of the Middle and Southern States contains, and they have subscribed for the *Farmer* only because they want it.

F. G. F., Raleigh, North Carolina, speaking of fruit cultivation in North Carolina, and valuable native varieties, says: "Would you like to see some of our fine seedlings? 'Thevis,' the 'Sally Grey,' 'Wyndham's Red,' and 'Cat Head' apples; 'June Pear,' 'Foster's Prolific' Plum, a native seedling; 'Scuppernong' and 'Weller's Halifax' Grapes, all No. 1. If so, I will try and send some of each in their seasons if I can do so cheaply. If you like the fruit, I will send some small trees in the fall, if acceptable."

We have to say in reply, that we should be glad to have specimens of these fruits for trial, but our usual experience in getting such is, that they spoil before reaching us. The trees recommended by our correspondent, we should take

pleasure in giving a place to, at our Agricultural College.

Attention is called to the advertisement of the Agricultural College. With the advantages of a thoroughly liberal course of instruction, as well as of that pertaining to its specialty, its pleasant and convenient location, and its very comfortable accommodations, this Institution offers peculiar attractions to students.

Manure.

The word manure, the etymologists tell us, in its original signification, means "to work with the hands." He who dug his ground with spade or hoe manured it. Now, he only manures who dresses it with dung, or other fertilizers. It would be a matter of some interest to trace the steps by which this change has come about. It would seem that the use of fertilizers was so highly esteemed by our ancestors that when one should use them properly, he was thought to have done everything that good tillage required; or rather, perhaps, that he who only manures who dresses it with dung, or other fertilizers. It would be a matter of some interest to trace the steps by which this change has come about. It would seem that the use of fertilizers was so highly esteemed by our ancestors that when one should use them properly, he was thought to have done everything that good tillage required; or rather, perhaps, that he who only manures who dresses it with dung, or other fertilizers. It would be a matter of some interest to trace the steps by which this change has come about. It would seem that the use of fertilizers was so highly esteemed by our ancestors that when one should use them properly, he was thought to have done everything that good tillage required; or rather, perhaps, that he who only manures who dresses it with dung, or other fertilizers.

The philosophy of this last idea is apparent. If a man lays out five hundred dollars in liming a fifty acre field, he will probably work that field better than if he puts nothing at all upon it. The fact that he is willing to spend so much money shows that his mind is in the right frame for something further. The expenditure begets an interest which creates the desire to realize the utmost from his investment, urges him to have his plowing done in the best manner; to harrow, to roll, to open surface drains at least, for surplus water, and suggests many little attentions which would otherwise have been overlooked. We do not doubt that the observation of many will bear us out in saying, that wherever lime, guano, or other costly fertilizers have been introduced, the improvement has been greater than what was due to the manure.

Possibly the mechanical effect of the use of dung, straw, &c., had something to do with the change in the meaning of the word. In the stubborn clays so prevalent in old England, the effect of such substances in ameliorating and reducing the soil, must have been early apparent, and led to the conviction that only to dress with these was to "manure" or give them their proper working.

But the chemical effect produced by the action of fertilizers may have had a still more effectual

control. Lime has been long known and used, as an improver of the soil. Yet no one supposes that its value is due to its supply of an ingredient of the food of plants. There is not perhaps one acre in ten thousand that does not contain lime enough for this purpose. Its greatest effect as a fertilizer has been observed on what are known as lime stone lands, and is due, without doubt, to its chemical action—to its effecting in a short time that change in the condition of the several mineral constituents of the soil which is brought about in longer time by the laborious operation of ploughing. The technical term "weathering" represents the process by which these changes are produced; that is by exposure of the surface to the action of the weather, frost being here a very active agent.

All our ordinary manures, those especially which we consider most valuable, act very probably in the same way. They supply directly the food of plants, but they act mechanically in opening soils of close texture to the influence of the elements, and chemically, by ammonia and carbonic acid, in cooking, so to speak, the raw ingredients of the soil, and presenting them as fit food for growing plants. This is the very effect produced by weathering, and weathering is made most effectual by constant digging and ploughing, so that new surfaces may be continually presented to the influence of air and rain, which operate by means of oxygen, carbonic acid and ammonia. The effect of manual labor and fertilizers being so nearly identical in this respect, and the latter acting with so much more promptness, it may well be said, that he only manures in the original sense of the word who makes a proper use of fertilizers.

Catalogues.

Catalogue of Pure Bred Webb South-Down Sheep.—This is a catalogue of the flock of South-downs of the late James C. Taylor, of N. J., imported and bred by him. For catalogue, address Wm. G. C. Taylor, Holmdel, New Jersey.

We have also Catalogue and Price List of J. C. Cox & Co., Breeders of Thoroughbred Stock, Domestic and Ornamental Fowls, &c. P. O. Osborne, Greene county, Ohio.

From George A. Deitz, Importer and Grower of Seed Wheat and Grass Seed, Chambersburg, Pa., we have his circular, descriptive of varieties of wheat offered for sale in small or large parcels. Mr. D. presents to those who wish to change their seed, a favorable opportunity of doing so. [See advertisement.]

Texture of Soils.

The quality of soils is very various, particularly as to texture and consistency, and no quality has more influence upon the well-being of plants than this. All the operations of spading, digging, ploughing, trenching and draining have for their object the production and preservation of that condition which will allow all excess of water to pass freely away, and admit as freely, fresh supplies of atmospheric air. While humidity is necessary, and too loose a texture makes too dry a soil, excess of moisture is a great evil, and must be corrected by whatever means is applicable. When the soil is saturated with water the access of the genial air and the gaseous properties is excluded. The soil is kept too low in temperature by constant evaporation at the surface, and by exclusion of the sun's rays; plants are deprived of the supplies of food which new supplies of air would constantly afford; and the delicate fibres are imprisoned and choked, and drowned out in greater or less degree, in proportion to the extent of the evil.

When air and rain can permeate freely, a constant supply of both gaseous and aqueous nourishment is afforded, independently altogether of the richness of the soil, whether natural or artificial. On the other hand, if the soil be compact, or baked hard by drought, in consequence of its natural condition, or of its having been previously worked and stirred when too wet, no plant can flourish.

Sandy soils are never liable to these conditions, unless when they have a clay stratum lying underneath, very near the surface. All the water they absorb sinks deep into the subsoil, and far below the roots of corn or any agricultural plant on the surface. Such a soil needs neither draining nor subsoil ploughing. Neither does it ever require to be exposed to the frosts of winter, or any kind of treatment by implements, for its physical amelioration. It is almost always in such an open, friable state, that it may be ploughed and sown at any season. The cultivation is easy, and executed at moderate expense, and with moderate care and judgment in their management their fertility is easily maintained. For these reasons we have several times urged that lands of this character are not sufficiently appreciated, for we find them in many parts of the country thrown out of cultivation and lying waste.

In such descriptions of land, however, it often happens that beds of clay lie alternately with those of sand, at different depths, beneath the surface. These beds not unfrequently crop out, or approach so near the surface that the water

does not get readily away, and even a sandy surface soil is kept too wet for the good of growing plants. In such a case, draining is the proper remedy.

It is well, however, to know that this remedy may often be applied at much less cost than if it were necessary to seek an outlet in some low ground at a considerable distance from the land to be drained. If there be wet and dry places in the same field, we may be assured that a bed of clay or other impervious earth lies beneath the wet, and a porous subsoil beneath the dry places. A drain of sufficient depth opened and filled nearly to the surface with stones or loose gravel from the wet to the dry places, will render the whole dry. A very short drain will sometimes effect this quite as well as one made at four times the cost to convey the water to a stream or a ravine. J

Book Table.

We have from the publishers, *A. Williams & Co., Boston*, *CHEMISTRY OF THE FARM AND THE SEA*, by Jas. R. Nichols, M. D., editor of "Boston Journal of Chemistry and Pharmacy." In 1 vol. 12mo., elegantly bound in cloth. Price \$1.25.

The aim of this little work is "to present scientific facts and principles in a familiar way, so as to interest and instruct those not specially acquainted with matters of science." The topics treated in these essays are *Chem. of the Farm—of the Sea—of a Bowl of Milk—of the Dwelling—of a Kernel of Corn—of the Sun, &c.* It is an attractive little volume, which we have not yet, however, sufficiently looked into, to do it full justice.

Also from the same publishers we have *GEYELIN POULTRY BREEDING IN A COMMERCIAL POINT OF VIEW*, with an introduction by Charles L. Flint, Secretary Mass. State Board of Agriculture. 1 vol. 12mo., with 27 illustrations. Price \$1.25. As carried out by the National Poultry Company, limited, Bromley, Kent; Natural and Artificial Hatchery, Rearing and Fattening on entirely new and scientific principles, with all the necessary Plans, Elevations, Sections and details, and a notice of the poultry establishments in France by Geo. Kennedy, C. E.

The author says in his preface, "I have confined myself exclusively to giving publicity to such facts as I have proved by *actual experience*: and I firmly believe that this treatise on *poultry breeding*, in a *purely commercial point of view*, is the only one ever published, in this or any other country, from which the public can learn how to

enter upon a highly profitable and pleasing undertaking, and this without having to pay the usual heavy penalties of experimenting."

THE SOUTHERN REVIEW.—The July number of this Quarterly is received. The contents are—Ireland and her Miseries. The Atlantic Cable. John Stuart Mill and Dr. Lieber on Liberty. The Maid. The North and the South. Picaresco Romances. Xantippe and Socrates. Causes of Sectional Discontent. Davis and Lee. Book Notices.

This very able Review maintains the high position it took on its first appearance. It should be the pride of Baltimoreans to sustain a publication of such character, and to give it the most liberal support. Bledsoe & Browne, publishers. \$5 per annum, in advance.

BLACKWOOD, FOR JUNE.—The contents of this number are—Brownlow's Part VI. The Reign of Law. My Hunt of the Silver Fox. Was George III. a Constitutional King? Strikes and Trades Unions. Dante in English Terza Rima. The Reform Bill. Clause III. and M. Lowe. Blackwood and the four leading British Reviews are re-published at the very low price of \$15 for all—for Blackwood alone \$4—by the Leonard Scott Publishing Co., 140 Fulton street, N. York.

THE WESTMINSTER REVIEW, Quarterly, for April. Contents—Italy and the War of 1866. The Papal Drama. Thomas Hobbes. Contemporary Music and Musical Literature. New America. Mr. Swinburne's Poetry. The Hopes and Fears of Reformers. Contemporary Literature.

"TURF, FIELD AND FARM."—This publication comes to us enlarged and improved, and we take pleasure in its evident prosperity. While the "Sports of the Turf and the Field" are its leading feature, this Journal has taken a decided stand for morality and elevated principles. There are such things as legitimate sports, which have been brought into disrepute by the rascalities and evil practices which commonly accompany them. The Journalist who clearly distinguishes between the principal and its adjuncts, and while he advocates the former, discourages and condemns the latter, does a good service to the community, and a special service to those who love true sport.

We noticed with gratification, that when nearly all the leading dailies and weeklys had their columns burdened with the disgusting details of the brutal *mill* between Collyer and Aaron, the "Turf, Field and Farm" treated the infamous exhibition with only such denunciation as it merited.

Seed Bed for Wheat.

The importance to the farmer of understanding the habits and peculiar characteristics of the plants he cultivates, as well as the nature and quality of his soil, is frequently illustrated. Let us take the wheat plant for instance, and we find, by almost common consent, it is best provided for in a shallow seed bed. Very deep plowing is thought to be, not only unnecessary, but absolutely injurious. The young plant seems to need a firm understratum not far from the surface to imbed its roots in, and with this advantage withstands the "throwing out," produced by alternate thawings and freezings, better than when the soil has been recently stirred to a very considerable depth.

No one at this time of day can overlook, or be ignorant of the great advantages to the soil generally, of deep ploughing. 1st. It opens a much larger amount of soil to the range of roots, giving much more liberal pasturage than they could otherwise get.

2d. It increases very largely the supply of nutriment, by allowing the access of air, and by the process of weathering, acting upon the mineral elements of the soil.

3d. It preserves an equal quantity of moisture in the soil. We seldom have a rain so great as to produce an unhealthy stagnation of water about the roots of plants set in a soil seven or eight inches deep, and, on the contrary, we seldom have a drought of so long continuance as to extract all the moisture to that depth.

These, and other known advantages from deep ploughing, we might dwell upon; and, apart from the well known fact above alluded to, it would hardly be supposed that any crop, of whatever character, would be exempted from the good influences of the practice.

We must make a proper distinction, however, between a natural subsoil, indurated and rendered impervious to the action of the air by centuries of rest—its original hardness and impenetrability aggravated by a long course of continuous treading, in ploughing the surface soil—and that firm, mellow body of earth, which is produced by deep cultivation.

It is this firm, yet generous subsoil, which forms so valuable a matrix for the roots of the wheat plant, and enables them to resist the loosening effects of alternate frosts and thaws during winter. This important distinction, it will be observed, allows nothing to be detracted from the argument in favor of deep ploughing. It is only when the previous working has been, indeed, most thorough, that the wheat reaps a due advantage from the shallow ploughing. The

understratum, though somewhat compacted in comparison with the loose surface soil, is so enlivened by the former breaking up, that the tender rootlets take firm hold and keep their place.

The advantage of this comparative firmness of the substratum is apparent in the practice, now so common, of seeding corn land to wheat, without any plowing beyond what has been given to the corn. The action of the tines of the wheat drill, or any such scratching of the surface as will give the seeds a slight covering, is found to answer all necessary purposes even on tolerably tenacious clays. It is insisted, indeed, after much experience, that this is the most successful practice for corn land seeding.

Take Care of the Tools.

There is no use in trying to carry on a farm, or to do anything else well, without system and order. And the care of tools is an important part of that system. One cannot accomplish much without a set of tools, larger or smaller—as for borrowing them unnecessarily, that should be regarded as next to stealing them. And the purchase of tools should be followed up by a scrupulous care of them. A tool room is a great convenience. It may be an apartment by itself in the carriage house or wood house.

Here let there be a row of pegs for saws; there is the bench for planes; yonder is a drawer, with separate compartments, for screws, washers, nuts, rivets, etc. Here is a place for bolts, there for screws. The hammers, chisels, screw driver, auger, broad axe, adz, files—all have their appointed locality, and are kept there and nowhere else. The law should be laid down and enforced, that whoever uses a tool must put it back, so that it can always be found at a moment's notice; nay, even if it be in the dark.

And this care of tools should lead and will lead on to system with regard to other things about the premises. Here is a corner for extra plough handles, and there a box for plough points; there are bolts of all sizes, ready in case of a break down; yonder are hooks with extra pieces of harness. Notice, too, the crow bar, beetle and wedges, and log chains, the grindstone always in its place, and always in order; the scythes, hoes, spades, shovels, forks, rakes and what not have so long been kept in their respective places that they would almost cry out if carelessly left in an unaccustomed spot.

The time spent in carrying back tools is not lost. If tools are not carried back, they would many of them be lost. And the moral influence of system and order is almost beyond computation.—*American Agriculturist*.

Fruits in the North State.

RALEIGH, N. C., June 29, 1867.

Messrs. Worthington & Lewis:

GENTLEMEN: The promise made you some time since to furnish you an occasional article for the "Farmer," has not been as fully complied with as I desired, on account of the general situation of our still beloved land. You who live in your wonted circumstances and know nothing of want and misery, of poverty and wide-spread desolation, cannot possibly form an idea of the state of matters away off here; and even we, situated at some distance from the main track of the late armies, are as little able, I think, to conceive of the still worse condition of those whose situation rendered their lot so much the worse. Ours is bad enough! God help the worse!! Can you imagine yourself with a wife and children dependent on your unaccustomed hands for a living, with taxes at their top notch, articles of necessity high, a feeling of insecurity rampant in the land, suspicion lurking in the bosom of those who were once counted as friends, the sight of blood still divested of its once terrible horrors, your real estate cumbrous and labor scarce and almost entirely irresponsible and independent, your bank stock gone, your State bonds below par and repudiation in favor, the labor of yourself and fathers scattered to the four winds, and in debt, with the cries of clamorous debtors ringing in your ears? If you can, you can *imagine* the situation of tens of thousands of our best citizens. Let me give you a few instances: Neighbour A., once a subscriber to your magazine, one of our best farmers, and, a few years ago, worth \$200,000, was hurried to his grave by the sad misfortunes of the late contest, leaving behind a family possessed of property to the value of about \$20,000, about half of which is alone available. Could you guess the situation of that household? Then there is neighbour B., also a farmer by profession, and an intimate friend of your contributor, at the beginning of the war was wealthy. He was young, and had been in active life only some ten or twelve years, with a most estimable lady for his wife (and of one of our best families), and a family of five or six children. That household was once happy. Plenty and peace once smiled in their midst. Charity extended her hands from his door, and the poor were fed, clothed and well cared for from the abundance God had lent. Now see the change! His lands are not cultivated, and, I am confident, he has not twenty dollars in the world with which to hire labor. His wife cooks, washes, irons, cleans up the house and minds the children

—their situation completely excluding them from gaining the assistance of any one—even to the milking of their cows twice a day. The husband, at the beginning of the war, was one of our staunch Union men, and by his efforts, *mainly*, the vote at his precinct was carried against secession in February, 1861, and Union candidates elected to the convention in the following May. Does Mercy see their situation or hear their daily cries? These are not exceptional cases, sirs, for I could take you up this road and down that, and show you neighbour Jones, or Smith, or Dick, or Harry, and tell you of their wants and misfortunes, of their sleepless nights of anxiety and solicitude for their toiling families. I could show you neighbour C's estimable widow, with her interesting family, dependent on powerless charity for their support, while their brave father's body lies on the soil of your own native State. I could tell you of D., who was hurried to a premature grave, while eager expectants grasped the remaining mite of his hard earnings—and of many others, but I know your hearts are already sick at these tales of suffering and woe, still you can join me in the prayer: God help the poor and suffering thousands of our brothers in the South!

[We are in the midst of the wheat harvest, and the heavy rains, that look as if they would never cease, are ruining hundreds of bushels. With flour at its present prices, what will the pressing demand hereafter carry it to! We have had rains—heavy beating rains—for the last *three* weeks. Corn crops are sorry, grassy and almost "drowned to death." No one is ploughing, for it is useless when you sink shoe-deep in mire all over the fields. I don't know what we will all do if our wet spell continues much longer. Famine looks as if she would be satisfied with nothing less than adding her miseries to our already heavy misfortunes.]

Our crop of fruit is very fine; many trees breaking under their heavy loads. But I believe this is confined to a limited section, or rather what the physicians would term "endemic." For eighteen or twenty days we have been luxuriating in May and June apples. (I wish I could set a basket full of them in your sanctum, with "our compliments." The Foust, Smith's Cider, Hunger, Winter Horse, Greenskin, Yellow Horse, Early Harvest, Magnum Bonum, Matamuskiet, Romanite, and many other kinds seem to be trying to show what they can do. So with the Catawba, Diana, Yellow Provence, Concord, Welles's Halifax, and Scuppernong grapes. (Did you ever eat any of the latter? How can I send

you some when ripe?) My plums are yet too young to bear, save the *Magnum Bonum*, *Columbia*, *Imperial Gage* and *Foster's Prolific*—the latter a native seedling, very large, of a rich perfumed flavor, and immensely productive. Turn from them and see our pears! There is the *Bartlett*, *Duchess d'Angouleme*, *Belle Lucrative*, *Sickel*, *Beurre Brown*, *Summer Butter*, and a dozen other, showing you their redening fruit at every breath of the wind, while around stand fifty other varieties, forming their bloom buds all thick along their limbs and giving promise of early fruitfulness. These are the relic of former years, and while they remind you of times gone by, they certainly give a pleasure which none can appreciate but the true lover of fruit. Could you be with us when they repay the "weary hand of toil" with their luscious fruit, you would certainly please

PHIL WOODLEY, Esq.

Novelties in Silk Culture.

Just as our advices from the East bring us word that the native silk merchants at Shanghai, growing gradually distrustful of their barbarian customers, have requested the foreign Consuls to notify their countrymen that in future silk purchases will be effected for cash only, a memorial has appeared with the Emperor's favor and sanction, advocating the general instruction of Chinese youth in European arts and languages. The first item of news would indicate greater difficulty and higher expense in procuring raw silk than heretofore, while the second promises the coming at a time within the lifetime of a generation, when the introduction of more diversified knowledge and taste into the Chinese Empire would vastly augment the production of all the articles of luxury raised there, and silk prominently among them.

It has been frequently alleged that if the methods practiced in Southern France and in Italy could be introduced on a large scale into China, the peculiar kinds of silk there manufactured could be brought out in quantities sufficient to admit of its introduction as an almost universal article of apparel. Without stopping, at this time to inquire whether such extensive results could be attained, we may remind the reader that it is within a comparatively brief period only that the finer textures of cotton even, not to mention wool and linen, have been worn by the bulk of the human race. The discovery and abundant culture of the cotton plant, date back for only a fraction of the centuries covered by our authentic historical records. After finding out its virtues


and developing them, mankind soon became better dressed, particular in the warmest climates where it chiefly grows.

Not long since, in commenting upon the rapid improvement of manufactured tissues and the better style and material of clothing, as one of the accompaniments of advancing civilization, we referred to the great increase of silk production, and argued therefrom the possibility of its one day replacing the stuffs that are now worn in common, as fine cotton goods replaced the inferior textures that preceded them. A discovery has just been made in Peru which may serve to make our theory a real matter of every day business much earlier than we had imagined. It seems that news has been received by the department of State at Washington, through the American Consul at Lambayaque, in Peru, of the existence of the *silk plant* in that country and its adaptation to the finest uses. The Indian natives, by whom the discovery is claimed, have woven specimens of its fibre, the texture and brilliancy of the fabric surpassing expectation. Parties have already made arrangements to cultivate and manufacture it on an important scale.

The description given of the plant, makes it a shrub some three or four feet in height and bearing a great number of pods enclosing the raw silk, which is declared to be finer and better than the cocoon of the silk worm. But to this advantage the plant adds another precious quality. Its stems produce a long and shining fibre that, in strength and beauty, exceeds the handsomest linen thread. The plant is a perennial, growing wild with a small sized seed easily separated from the fibre.

Such is the substance of the brief statement thus far made public by the State Department, but there is enough in it to open the way to a new branch of culture, which, from a comparison of soil and climate, might evidently be introduced to advantage in many parts of this country.

The silk worm was not a native of the countries that now produce it in the greatest abundance and are celebrated for their silk manufacture. There are portions of our southwestern territories that possess a temperature, exposure and other requisites very analogous to those of the Peruvian district where the plant is found, and it might well repay the cost of experiment to try it there.—*Mer. Journal*.

 The currycomb should not be neglected; its use on all kinds of neat stock and horses is a great preventive of disease and vermin, and is productive of health.

For the "American Farmer."

Grape Growing and Wine Making.

There is at present a very proper and laudable spirit manifested throughout the country, on the subject of growing grapes and making wine; and, as a stimulus to increase and accelerate this spirit amongst our people, numerous statements are published, showing the enormous profits arising therefrom; and also urging it upon the owners of land and farmers generally, to go extensively into the business, as a sure investment of money and labor, and which will return larger profits than the cultivation of any other crops. That this is all true, there is now no cause to doubt. But there are thousands of farmers, who from their isolated locations, remoteness from a ready market, and want of facilities for transportation, are unable to avail themselves of it, or go into the business upon a scale that would be necessary to success. They are thus unable to grow grapes and make wine as an article of commerce; and, therefore, after reading these glowing accounts of the success of others, which, from their authenticity, they have no reason to doubt, they lay them aside as inapplicable to themselves, and take no further heed of grapes. Let us, therefore, consider the matter in another, and, perhaps to them, a more important than commercial light. Let us put the matter of growing grapes and making wine upon a different footing, and urge upon every farmer in the land the propriety of making wine for family use, which can be done independent of railroad facilities, and irrespective of location, and without in any way interfering with other farming operations. What farmer but would relish his glass of good wine at dinner, or who more than he would experience greater pleasure in offering to a visiting friend a glass of his own make in social intercourse. In order to secure this, he has only to plant from fifty to a hundred vines, which will in a short time afford him the above luxury. They will take up but a small space; and, after becoming once established, will require but little of his attention. From this number of vines he will be enabled to make a sufficient quantity of wine to serve his own family a whole year at least. The manufacture of wine is so simple that any farmers' wife can make it who knows how to make a barrel of sauer-kraut, or boil a kettle of apple-butter; all he has to do is to furnish her with the requisite number of vessels (barrels), and with the aid of her family wash-tubs, and a hand to pick the grapes and do the heavy work, she will get him up a wine that an epicure would smack his

mouth over, and that he himself will relish with his bacon and cabbage, as well as could be done at a Chateau Margeau dinner. Let every farmer then, and all others who have a small space of ground, plant as many vines of some approved kind for wine or table use, as they can find time to attend to, and make their own wine, which they can do at little or no expense, and a very small cost of labor or loss of time.

Moorefield, Va.

I. G. MASK.

Swindling.

From different parts of the country we receive reports of farmers being swindled by dealers in patent rights or in patented machines. The most extensive operations have been in the New England States and New York, although many farmers have been victimized in Illinois, Michigan, Iowa and other Western States. It seems strange that such a scheme as the following should succeed, yet it is said that hundreds of thousands of dollars have been made by it:

A party shows the model of an implement. It has happened that a hay-rake or hay-fork has generally been the one used—and proposes to make the farmer to whom it is shown an agent, selling him the right for \$100. As a security, he is assured that he will not be required to pay anything until he has realized \$200 profits, and is also told that the retail price of the implement will be more than twice the wholesale price. A certificate of the receipt of \$100, with printed signature, with an unsigned agreement that no money is to be collected until \$200 profits has been realized is then given, and the farmer is asked to sign what is really a promissory note to pay the \$100 in one year. It is stated, however, that this is simply to show that the party is an agent; and if objection still be made, a condition is written on the margin of the note, similar to the other agreement. The condition is afterward torn off and the note sold at a discount to an innocent purchaser, in whose hands it can be collected.

In other localities machines of different kinds have been sold to be delivered at a future time, and notes taken. These notes would be sold to innocent purchasers, and be good against the giver, although the machines would never be delivered.

These are only samples of various means used to secure money without giving a fair equivalent. It is certainly surprising that schemes so utterly at a variance with the ordinary rules of business should have proved so largely successful.—*Western Rural*.

The So-Called Cashmere Goat.

The beautiful and costly fabrics known as Cashmere shawls have long had a world-wide fame. They are wrought in the valley of Cashmere, and perhaps in other parts of Northern India. The material of which they are composed is said to be the hair or pile of a goat. Europeans and Americans have endeavored to ascertain precisely the kind of animal which yields this valuable staple. For a long time this object was beset with various difficulties. It was said that the people who make these articles desired to keep the process of manufacture a secret. Goats were from time to time purchased and taken to France, England and America, under the expectation that they produced the coveted material; but such expectations were not realized. No thousand dollar shawls were made from their hair, nor did the hair seem capable of producing such fabrics.

In 1849, Dr. J. B. Davis, of South Carolina, returned from an extensive tour in Asia, and brought with him from that country a collection of animals, among which was what he called the Cashmere goat. They soon increased considerably, and being widely advertised under the above name, with the accompanying statement that their fleece or hair was worth eight dollars per pound in France, some of them were sold at very high prices. Dr. Davis finally sold his entire stock of these animals to Richard Peters, then residing at Atlanta, Georgia.

Dr. Davis stated to the writer of this article in 1854 that he procured these animals in the district of Cashmere, and that he thought he was thus justified in calling them Cashmere goats, although he admitted that they were identical with what had long been known in Europe as the Angora Goat, and also admitted that the celebrated Cashmere shawls were *not*, probably, made from the fleece of this goat, but from another variety inhabiting the same region in Asia. Dr. D. had with him a piece of what he said was a genuine Cashmere shawl. By unraveling it, the material of which it was composed was found to be quite different from the hair of the goat which he called Cashmere; but was a more cotton-like substance, of short fibre, very fine and soft. Dr. D. exhibited a sample of the fleece of another kind of goat which he found in Cashmere, the samples having a close resemblance to the material of which the piece of shawl alluded to was composed; and he said he regarded this latter variety of goat as that from which the material for the genuine Cashmere shawls was obtained. He stated that the

animal was quite different from the other Cashmere goat, which is identical with the Angora, whose fleece is long and silky, but without any appreciable quantity of the short cotton-like fibre produced by the other variety. The latter, he said, was covered outwardly with rather coarse, stiff hair, with which, next to the skin, was mixed the fine fibre.

Nothing is more certain than that the long-haired goat introduced by Dr. Davis and generally advertised over the country as the Cashmere, is really the Angora. After Mr. Peters bought Dr. Davis's stock, he (Mr. P.) made an importation of Angora goats, which were shipped at Smyrna for Boston, where they were landed just at the breaking out of the late rebellion. All intercourse with the South was cut off and the animals never reached their destination. They were precisely like the so-called Cashmere goats which Dr. Davis introduced, as the writer can testify from personal observation.

The Angora goat was introduced into France many years ago, and is now well acclimated, and is bred there to a considerable extent. After the failure of various attempts to manufacture its fleece, success has been attained. Under the name of "mohair" it is combined with silk and also with cotton in the production of light, thin fabrics for ladies' wear.

The speculators in these so-called Cashmere goats, in this country, have led some of their dupes in the "rural districts" to believe that they could sell their goats' hair at a very high price—seven dollars per pound in New York. A person who had a quantity of the article on hand, a year or two ago, requested a friend in New York to ascertain what it was worth, and received for an answer "there is no sale for it."

Probably it might be sold in France, but at no such price as that above mentioned, and unless a late demand has sprung up for it, very little if any has ever been sold in this country.

These remarks have been prompted by an article lately going the rounds that is calculated to mislead the credulous and unwary.—*S. H. in Lansing Republican.*

RENOVATING WORN-OUT LAND.—At a recent agricultural meeting in Boston, one of the speakers remarked that "on a tract of land which was overrun with wood-box, briars and other shrubs, he turned 150 sheep. At that time a cow could not have lived on the whole tract. The sheep were kept there several years, and so killed out the wild growth that the tract now affords good pasture for 15 cows."

Value of Different Kinds of Vegetable Food.

An extensive series of experiments, which had for their object the determination of the relative values of the different kinds of vegetable food, based upon their amount of nitrogen, have been made under the direction of Professor Liebig, in the Geissen Laboratory. The method of Varentrap and Nill for determining nitrogen has been followed, being considered to afford more accurate results than that of Dumas' employed by Boussingault. By comparing the results with each other, and with those previously known, Dumas' and Couhor's, Boussingault's, &c., the following conclusions have been arrived at: That the same species of cereal grain on different soils may yield unequal percentage of nitrogen; that one-seventh of fresh ripe cereal grain is moisture, which may be expelled at the temperature of 100° C. (212° F.); that wheat and rye flour, which, to the eye and sense of feeling, are undistinguishable from each other, may differ by from one to three-tenths of their whole quantity of nitrogen; that root crops grown on different soils may yield unequal percentages of nitrogen; that the percentage of moisture in edible roots of the same species is, in the fresh condition, a constant quantity; that beets, carrots and turnips have a larger percentage of moisture than potatoes; that the nutritive values of peas, beans or lentils correspond with each other; that more aliment is contained in a given weight of peas, beans or lentils than in an equal weight of any other kind of vegetable feed analyzed; that in several of the grains and roots analyzed there are organic bodies beside those identical in composition, and gluten, and starch; that the ashes of carrots, beets, turnips and potatoes, as Professor Von Liebig has already remarked, contain carbonates; that iron is present in the ashes of all the grains and roots analyzed; that the difference between the theoretical equivalents, as estimated from the percentage of nitrogen, and those ascertained by the experiments of stock growers, and particularly the differences between the results of the different stock growers, may be attributed to the following reasons: Because the percentages of nitrogen and carbon in fodder grown on different soils are unequal; because the prominent test has been the increase or diminution in weight of the animal fed.

Increase in weight may arise from secretion of fat, derived from the sugar and starch of the plants. Diminution in weight may follow unusual activity, increasing the consumption of fat already present; because the experiments, in but few instances, were undertaken with substances

whose percentage of water and nitrogen had been ascertained; because theoretical equivalents have been employed in conditions equally suited to digestion. The same food, coarse or fine, fresh or prepared for easy digestion, yields unequal measures of nitrogen; because the conditions, whether exposed to the open air or protected in stalls, whether subjected to labor of uniform severity, or allowed the free range of pastures, have not been made alike. Finally because some animals differ greatly from others in the facility with which their fat and muscles are developed even when circumstances are precisely the same.

About Dogs.

Few persons are aware of the value and variety of dogs, varying, as they do, in weight from one hundred and eighty pounds to less than one pound, and in value from about five hundred dollars to less than nothing. A description of the different varieties may not be uninteresting: The Siberian bloodhound weighs about one hundred and sixty pounds, measures forty inches in girth, and is worth nearly five hundred dollars. The St. Bernard dog, which is of a buff or light red color, is very large and valuable. The Newfoundland dog, when pure, is entirely black, and its pups are worth from ten to twenty dollars. The shepherd dog, or Scotch colly, is wonderful for its patience, fidelity and bravery. It is worth from fifty to one hundred dollars. The English mastiff, a good watch dog, is worth from fifteen to twenty-five dollars. Of terriers, the black and tan is most admired. It varies in weight from one pound to twenty-five pounds, increasing in value as it decreases in weight. A member of the bar in a neighboring city has one which weighs less than a pound, and is the smallest we have ever seen. It could not be bought for \$150. Terriers are often crossed with the Italian grayhound, producing a very delicate, but extremely useless dog. The Scotch terrier is the hardiest of dogs, and is very courageous, and is worth from ten to thirty dollars. The Scotch deerhound is the rarest and most valuable of hunting dogs. They are very rare, and are owned principally by the nobility of England. They are worth one hundred dollars each. The beagle is the smallest of the hound kind of superior scent and endurance, and is the best sort of rabbit hunter. English grayhounds, the fleetest of dogs, are worth from twenty-five to one hundred dollars. The Italian grayhound is merely a parlour dog. The pure breed is rare and valuable, a fine one being worth one hundred and fifty dollars.

There is a great variety of pointers, setters, and spaniels. The Prince Charles variety is the most valuable of spaniels. He is supposed to have originated in Japan, where a similar breed exists. He has a round head, short nose, long curly ears, large, full eyes, black and tan color, and never weighs over ten pounds. They have been sold at auction in England and have brought as high as \$2,600 each. The coach dog is from Denmark, and is not of much value. Some Arctic dogs and Esquimaux dogs were brought here by Dr. Kane. One was kept for a long time at the United States Hospital at West Philadelphia. They are fox-like in shape, remarkable for activity and vigilance, and have an acuter sense of hearing than any other dog. Most of the dogs about our streets are spurious, and not even half-breeds.—*American Stock Journal*.

Working Bulls.

I have one of Emery's endless chain powers to drive my hay cutter. My bull is an Alderney, two years old, weighing a little over 900 lbs. I put on the brake and had him led into the power, where he had a small feed of oats given him. While he ate these he was groomed and caressed. This was repeated two or three days in succession. Then, while he was eating, the brake was slackened a little; and as the floor moved down, (slowly, so as not to alarm him,) he stepped up to keep his muzzle at the oats. At the fourth lesson, he walked an hour, and cut hay enough to last my stock (some 18 head in all) two or three days.

We have not had the slightest trouble, and so much does he appear to like the exercise, and the pleasant remembrance of the reward of good behavior, that I shall not be surprised if, when he happens to find the door open, he should go in and "run the machine" on his own account. I intend to put up a circular saw and let him cut my fire-wood.

Now for the advantages. The pampering and confinement which makes a horse run away will, in time, make a bull devilish. The work I give him requires no harnessing; it is only an hour's walk up a hill of 13 deg. elevation. It gives him an outlet for his superfluous spirits, it keeps him "in hand" and gentle, it wears away the growth of his hoofs, develops his muscle, and improves his health. Have I not a right to expect my herd to be benefitted by such management? I thought so before I knew Professor Agassiz's opinion.—*Correspondence of Country Gentleman*.

English Shepherd's Dog.

Having occasion to call on a friend a few miles from Winchester, I descended at that station, and proceeded on foot across the country. During my walk, I had to pass through a very large field—one-half of which I observed was seed crop, the other being pasture on which were feeding some hundred or more South Downs. My attention was shortly attracted to the faithful dog, who was walking, with sentinel-like punctuality, up and down the boundary line of the two crops, close to which some of his trust were browsing. Upon the slightest attempt of any of them to infringe on the seed, he immediately drove them back; but the extent of his beat being very long, he was sometimes sorely put to it, and had to hurry backwards and forwards in rather a laughable manner. Collecting his energy, he finished by driving the whole flock to the extremity of the pasture. Then satisfied with the altered position of affairs, he returned to the boundary line, and lay down with the assurance that they must now feed up to him.—Four hours afterwards, on recrossing the field, all was as it should be, and the guardian of the limited liability still reposed undisturbed, in *media res*. I was greatly gratified at such an admirable display of canine sagacity.

The following is even more extraordinary:—Mr. Scott, a farmer near, Bishopstoke, in Hampshire, possesses a remarkably intelligent sheep-dog of the English breed. Not long since, he accompanied him to Appleshaw Fair, where he purchased a lot of sheep—upwards of two hundred and fifty. At night, in bringing them home, they were turned into some meadow land with several other droves; they, consequently, soon all became mixed together. The next morning, without making a single mistake, the dog picked out the whole of his master's sheep from amongst the others, almost unaided, and although he had been so short a time acquainted with them—after which he drove them to their destination single-handed. This feat Mr. Scott may well be proud of repeating, as it has seldom or ever been equaled, never surpassed, for brilliant intelligence and canine observation.

There are certain peculiarities of character belonging to the sheep dog well worthy of note. He is a remarkably small eater, and is the least greedy of all the entire race; in fact, it is quite astonishing how many hours he will remain true to his post without indulging his appetite; he apparently suffers but little from hunger or thirst. He is of a pensive, melancholy disposition, and rarely condescends to join a romp, or enjoy that

playful dalliance which belongs to other animals. At the same time his affections are true and unalterable to his master, and his faithfulness, under the most trying circumstances, is staunch even to death; and if we should seek in the canine family for talents and qualities especially human, our convictions unhesitatingly point towards the sheep-dog.—*Farmer, Edinburgh, Scotland.*

The Selection of Dairy Cows, &c.

In selecting cows for a dairy, or for family use, we contend that the best are the cheapest in the end, as it costs no more to keep a good cow than a poor one.

In order to judge of the qualities of a good milch cow, the shape and size of the animal in whole and detail should be considered, the temperament and disposition, also the strength of the constitution. If these points are well developed, the cow will generally prove to be a first class milker.

Blood is desirable in all kinds of stock, but is really of little account without proper care and management. That is to say, blood stock cannot be kept up to a given standard if it is neglected and kept upon unsuitable food, or in unsuitable quantities. All stock will deteriorate under imprudent management. Cows that "*handle well*" are always to be preferred for the dairy, as it indicates a good milker in a cow, whose skin is somewhat loose, and that will spring when pinched with the fore finger and thumb. *The thigh veins should be large, easily felt with the hands, and the udder should be capacious.

Cows are now selling in this State, and we may say, in all the Eastern States at from \$50 to \$125; and some extra fine animals at higher rates.

If a farmer has not got the money to buy as many as he wants at the higher prices, let him buy *half* the number at the higher figures, that he would at the lesser rates, and he will make more money in the end by so doing, and he will be able to raise a supply for himself, equal perhaps to the parent stock, when in the case of purchasing the lower priced animals, the increase in calves might not be worth raising; and in no case would it be much, if any, superior to the parentage.

At a recent meeting of a farmers' club in Vermont, one of the members stated that he had reared an excellent herd of cattle, all bred primarily from a cow of superb quality. The breed was mainly Durham. He had marketed many excellent animals from his herd for work

and for beef, and thought his success chiefly owing to breeding from that cow coupled with judicious crossing. He believed that it was full as important to have excellent qualities in the dam as in the sire. The cow to which he owed his success in breeding was of vigorous constitution, active, possessed of a full bright eye, of kindly disposition, deep in the ribs, thin and light in the shoulders, and swelling out full towards the hind quarters. She was large, regularly formed, covered with close, silky hair. She was good for milk. He always crossed his cows with the very best pure blood male, generally Durham. He thought every farmer could from good selections from native stock thus raise animals superior for beef, for work, and for milk.

The best cows, probably, that dairymen can obtain, for general use, are grade animals, and crossed with especial reference to milk-producing properties; but it is not easy to say exactly how these grade cows shall be produced; that is, what proportion of foreign blood, and what blooded bulls are most desirable; but, in our own case, we should prefer the Alderney.—*Am. Stock Journal.*

Floods and Revenue.

The *Planters' (La.) Banner* thus speculates upon the consequences to the revenue of the United States from the inundation of the country bordering on the lower Mississippi:

[It is estimated that the Government of the United States will lose fully ten millions of dollars, in the next year alone, from the devastation caused by the overflows that have occurred, this loss being the difference between what might have been collected for taxes, and the amount that probably will be received.] This is a hard, practical and stubborn argument against the petty tyranny toward the South, which led Congress to refuse all aid to internal improvements, and especially that of refusing assistance in repairing the levees. The subject is receiving attention at the North, where the folly of utterly destroying the resources and productiveness of even an enemy's country, is beginning to be appreciated. A light is beginning to dawn upon them, and they see that if our people have no incomes they cannot contribute much to the support of the Government, that they cannot pay old debts, nor buy fresh supplies. All these things turn back upon the merchants and people of the North, and a more enlightened and liberal course is being urged. It would be wrong, in view of their actions during the past two years, to say that charitable feelings actuated them. It is not that, but they begin to feel that it touches their own pockets, that they are killing the "goose that laid the golden egg."

Grape Soils.

DR. JOHN A. WARDER, President of the Ohio Pomological Society, has, in the report of the Society, made some very interesting remarks on grape soils, from which it appears that grapes may be grown on almost every variety of soil in in a suitable climate, but that each soil has its peculiar kind of grape, which is better adapted to it than to any other situation.

It follows, therefore, that the great secret of success in grape culture, is to select those varieties best adapted to the peculiar soil on which it is destined to plant, and this must be decided by the rigid test of experiment.

"Geologically," he says, "these plants appear to be equally diverse in their selection, for they are found upon the granites of Arkansas; upon the trappean rocks of Europe and Asia; upon the modern volcanic scoria of Italy, and of the Western Islands; upon all limestone formations of whatever age and character; upon the shales and sandstone of the coal measures; upon the chalk prairies of the Southern States; upon the tertiary sands and clays of the Atlantic coast, as well as those of the great western plains, and upon the half formed tufaceous rocks, gravels and sands and clay diluvians, also have their grape vines."

The Catawba, Diana, Iona, &c., are adapted to clays, and the majority of the vine planters upon the lake shore prefer stiff clays. No matter how stiff no matter how close, even if it be poor hard white clay, the successful cultivators in this region pronounce it good grape land, needing only thorough drainage to grow abundant crops, especially of the Catawba variety.

The Doctor remarks, that it is the very common opinion after many years experience, of those who have been eminently successful in the culture of the vine, that the clay cannot be too hard and compact for the roots of the grape to penetrate. Among the plants which are an indication of good grape lands is the blue grass or *Poa compressa*, which always takes possession of such clays, particularly if they contain lime.

He says that the pioneer planter of the lake region, even declares, that those vineyards which were prepared in the most thorough manner by trenching, always heretofore recommended, are the most unsatisfactory in their results, and that the best and most productive are heavy soils, that were merely plowed, and the roots were placed in holes dug into the hard and previously undisturbed clay, and then firmly trodden in at planting. Drainage, however, is necessary, it being preferred that the tiles be laid sixteen feet apart,

or between the rows. To show that the variety of grapes which we chiefly cultivate love a clay soil, an instance is given of the vineyard of Mr. Buchanan, of Cincinnati, where a pit was opened among the vines in the hard clay below the trenched soil. The clay was so hard as to be loosened with difficulty with the pick, and yet after reaching a depth of four feet an abundance of grape roots were found forcing their way into the unpromising soil.

These facts are interesting and suggestive to those who are looking forward to the culture of the vine.—*Utica Herald*.

The Horse—His Nature and Disposition.

I assume that no horse is naturally vicious, and think it can be proven; and again, it is open for investigation, that there never was a vicious horse that was not made so by mismanagement. Suppose we take a wild colt from the pasture; if we come within reach, he kicks in self-defence; we get a rope on him, drag him about till he yields, but does that cure him from using his heels? No! it makes him worse; it halter-breaks him, but that natural fear is increased, and the next time we approach him, he will show fight in earnest, and we shun his heels, and he knows it. He keeps his head from us and is master of the field; whips and clubs will only subdue him. Now I ask, why should we attribute this to his vicious disposition, natural and inherent? Suppose we had taken altogether a different course, and enticed him into the yard, and then alone, quietly commence his education; when he finds himself alone with his enemy, he will watch very narrowly all our motions; slowly and cautiously we approach him; soon we see by his restless eye that he is afraid; we stop awhile, then again proceed, being very careful to go slow that his eye will show no fear; when within his reach we carefully put out our hand towards him, he reaches out his head and smells; we then commence to pat and smooth him on the nose and neck, which he is as fond of as a cat; step away from him, and to our wonder he follows us; we gently caress him again, and we soon find he will follow us anywhere.

Then we put on a halter and find that he is already halter-broken; you may handle him as familiarly as you choose, and he will not kick or bite, and if you take the same careful, gentle course in his after education, you will never know him to resist any demand which he understands. Having once established our friendship in his mind, we should never frighten him by attempting to make him do anything he does not

understand. Never attempt to harness or mount a colt suddenly the first time, for it will surely frighten him and you will lose his confidence. Horses are made vicious by bad usage, and the man who can abuse a noble and confiding horse, and spoil his disposition, should be the only one to suffer from the teeth and hoofs of the same animal.—*P. Farmer.*

Orchard Culture.

The orchard should be just as much a subject for cultivation as any other part of the farm. By cultivating an orchard we do not mean the growing of crops in it; but on the contrary, the giving up of the soil *exclusively* to the trees, and yearly top-dressing it with muck, leaf-mold and carbonaceous matter generally.

To select a favorable site, to thoroughly prepare the soil, to purchase none but the best of trees, to plant them in the most careful and approved manner, together with pruning, training and low-branching, are necessary requisites; but the subsequent enriching of the soil at intervals must not be neglected. Fruit trees draw their nourishment from the soil, and it is just as necessary to the perfection of fruit to keep up the supply of nourishing elements in the soil of the orchard as it is necessary in the soil of the field.

In our estimation, the raising of field crops in the orchard is an absurd and injurious fallacy. No man likes to do double physical duty; and to attempt to make a given acre yield a crop of apples and a crop of corn or wheat, in the same year, whilst not directly in opposition to the law in physics that two things cannot occupy the same space at the same time, is an attempt at something almost like it so far as the elements of plant life are concerned. It will invariably be a failure, resulting in one or both of the crops falling short in quantity and quality. Why do we assiduously try to keep our strawberry beds free from weeds? Because we are afraid the weeds will rob the strawberries of the elements necessary to fruit perfection. Why then crop our orchards and look for a full yield of ripe, delicious apples? It is folly to expect it. We have changed the direction of the eliminative power. As well might we cram our heads with the "learned lumber of pedantry" by taking out our brains to make room for it.

The trees are barked by the plow or team; they are more liable to be blown over or to lean "deviously." In order to get under the trees with the horses, they are trimmed "up higher;" and when the trunks of apple trees are high and exposed to the scorching rays of the sun, the sap

becomes heated and the fruit sickly. Apple trees should not be trained high—the storms have less effect, the rays of the sun will not lay on the trunk, and the fruit will be fairer. In the month of August the apple makes its main growth. Then it is that it most needs that moisture and sap which the field crop is lavishly robbing it of. Your Baldwins and Newton Pippins are both small and dwarfish, and you wonder why so many are drooping and dropping.

We know that this matter of cropping orchards is a mooted question; that while grain crops are generally acknowledged to be injurious, many consider root crops to be beneficial. Probably the reason the latter are beneficial, is because they require so much manure to make them profitable. We would like to hear from some of our correspondents on this question, as our remarks have been made with that view as much as any other.—*Farm and Fireside.*

Soiling vs. Pasturing.

Let me recite the experience and practice of a friend of mine. Coming into possession of about nine acres of land in the neighborhood of a good market, made by the demands of a large literary institution, he cast about as to what was to be done. Two cows and a horse was the stock in trade, for neat cattle. He was obliged to pay per season, men for pasturage, what they thought it was worth, and at the same time it was no small job to drive his cows back and forth. That determined him to keep his cows in the barn. The greatest trouble was the rapid accumulation of manure. By good husbandry he properly secured that—he kept feeding it to his crops. Finding his crops increasing, he added another cow. Another cow only made more manure. More manure husbanded in the same way made more crops, and the third year he added another cow. Now began another serious difficulty. His barn was too small. Still, at the end of the fourth year, he put in another cow, and set himself to work to get up a new barn, and when I last saw him he had a new barn with modern improvements, of good size, a horse, a pair of cattle, and five cows, and yet had no thought of buying more land, but wanted one more cow. Now people who do not want a large accumulation of manure, and a gradual increase of crops, should not adopt that style. But it seems to me that in our towns, where homesteads are in small lots, and not easily procured, no better course could be pursued than soiling the cows, and, at the same time, fattening the soil.—*New England Homestead.*

The Profits of Market Gardening.

On the above subject, we find many useful hints in a work briefly noticed in our last issue, and entitled "Gardening for Profit." The first chapter describes the men fitted for the business of gardening. They must be such as can stand laborious out-door employment—active, working men; possessed of good sense, energy, and perseverance. Retired city merchants and men of business who get a place near town, hire a gardener, and expect to reap a large profit, reckon without their host, and usually find their gardens costly luxuries instead of paying investments. Many golden dreams of this kind are mercilessly dissipated every year. Personal attention, labor, superintendence, watchfulness, must be given, or such a business will be anything but profitable.

In regard to the amount of capital required to work a market garden effectively, the opinion is given that, for anything less than ten acres, \$300 per acre is required. This will startle many. Judging by the small amount of capital per acre necessary to farm, there are many who make sad mistakes about gardening. Gardening is concentrated farming. If the space tilled be smaller, the culture is higher, and the amount of labor bestowed on a given quantity of land far greater. Not only does the work referred to maintain that \$300 per acre is needed as capital, but it holds out the not very encouraging prospect that the first season will not more than pay current expenses, and cites many cases of failure arising out of the attempt to garden with insufficient means, and under the delusive idea that the first year's crop would be highly remunerative. The attempt to cultivate too much land, with small means, is a fruitful cause of disappointment and loss in gardening as in farming.

As to the working force per acre, a market garden of ten acres, within three miles of market, will, if planted in close crop, require on an average seven men. A less quantity land will require more working force in proportion. For a small area, one man per acre will be needed. This labor estimate will take not a few by surprise. There are many persons who own about an acre of land, part shrubbery and part garden, who are dismayed to find, after a short trial, that it requires all the time of one man to take care of such a place. They complain that it does not pay; and certainly, if the money value of the products grown be all that is counted, it will not be easy to make it pay. A liberal allowance must be made for health, beauty, space for exercise, &c. These are worth

much to a family, and cannot be obtained for nothing. A small garden that can be worked without hiring help, or a good-sized place on which the business of market gardening is carried on, and in the management and working of which the owner's own time and energy count, these are profitable; while a piece of ground kept partly for the display of taste, and the enjoyment of nice grounds, &c., will cost the proprietor more or less according to the pains taken with it.

Our author puts the average profits of well cultivated market gardens, in the vicinity of New York, at \$300 per acre for the past fifteen years. This is for the products of open gardens only, not of frames or forcing pits. Competition is very keen in the New York market, and for this reason it is thought market gardening might pay better in smaller towns, and even villages. But if the competition be keen in a city like New York, the demand is great; there is no difficulty in working off large quantities of produce; whereas often, in smaller places, the market is so readily glutted, that any overplus of production is a dead loss. Moreover, in a city, people cannot have gardens, whereas in a town or village, on quite small plots of ground, families can grow enough for their own consumption of just such articles perhaps as yield the market gardener his best prices.

The moral of it all is, that market gardening is not a sure fortune, or an easily worked gold mine, out of which wealth is certain to come, but a *business* requiring management, industry, and many qualities rarely possessed by those who enter on it. There is no royal road to success in this world, even among the pathways of a garden. Honest work, with mind or muscle, or both, is indispensable in every sphere; and he who expects to find anywhere a smooth, easy road to wealth, is under a great mistake.—*Canada Farmer.*

The Yield of Cotton in Egypt.

The British consul at Alexandria has made an official report on the present condition of Egyptian agriculture. He says the agricultural industry of the country has been so entirely diverted from the rotation of crops in its normal state, that any person now going through the country to take a view of the produce of the soil would be altogether misled. The enormous profits which were realized by the growth of cotton during the American war have caused this. When the Cotton-Supply Association sent out their secretary, Dr. Forbes, to India, those gentlemen were

bearers of a memorial to the late viceroy, Said Pasha, praying his highness to use every possible effort to encourage the cultivation of cotton.—The reply was characteristic, and evinced a correct impression and almost a prophetic dread of the revolution that would be produced by an immoderately enhanced price for cotton. He said, "Prices alone will prove a sufficient stimulus without any effort on my part; but God forbid that I should ever see the abandonment of the ordinary succession of crops for the production of cotton, to the exclusion of those products on which we subsist."

"Within a short period from that time Egypt, which had ever been a large exporter of grain, of beans, &c., had to seek food from other countries, and became an extensive importer. Grain was considerably dearer in the interior than at Alexandria. In some places absolute famine ensued. An undesirable change was wrought, the recovery from which will be as slow as its accomplishment was rapid. The value of land was quadrupled; wages rose in an equal ratio; laborers earned so easily sufficient for their wants that they became indolent; an excessive luxury sprang up, and that not of a nature to benefit the commercial world, being displayed in a demand for white slave girls, costly pipes, and such other appliances which, the consul remarks, do not much benefit the industrious world without."

"Meanwhile the land, from the constant crops of cotton in succession, has become impoverished. Cotton, however, has long been, and must continue to be, the most important production of Egypt. It is sown in March or April, and arrives at maturity in August or September. An average yield in good summers is three hundred pounds to the acre; the New Orleans variety has been found to yield eight hundred pounds per acre; but it is found unmarketable, and is, therefore, little cultivated. Cotton seed has become an important source of profit. In 1858, the ardeb of two hundred and seventy pounds sold for twenty-five tariff piastres; now it sells for from sixty-five to seventy-five piastres. Formerly it was not of sufficient value to justify its being sent to Alexandria, and it was used as fuel; now it is all shipped to Europe, and from it is pressed an excellent oil, and from the refuse a cake is made which is said to be more nutritious than linseed cake. The cattle murrain, which commenced in Egypt before it proved so severe a scourge in England, destroyed, the first year, eight hundred thousand head of horned cattle. In lower Egypt almost every animal was destroyed, and it will take years to restore the number of animals."

Canning Fruits.


First—can the fruit the same day it is gathered. More than half the secret of having fine preserved fruit lies in this simple direction.

Second—Never can fruit without adding as much sugar to it as you would to prepare it for the table. This is imperative, else your fruit will inevitable be leathery; cook it in, I should say, at the rate of one-quarter of a pound to every pound of fruit at least; but taste and try, as I did, and when it suits your palate cease from all saccharine matter.

And now for the *modus operandi*:—pare and extract the pit; cut into halves and plunge into cold water until ready to cook, else your peaches will be black; this, of course does not apply to other kinds of fruit. Place your cans in any vessel where they can stand at least half way up in boiling hot water, which keep so until sealed. I usually take a large dripping-pan and put it on top of the stove at one side, while my preserving kettle is on the other. Make your sirup and when it comes to a boil, put in your peaches and let them cook (if clings) until you can pierce with a piece of broom corn; if freestones, when the sirup boils up over them the first time, skim out and put into the cans. When the latter are full of the peaches, fill up with boiling hot sirup, wipe off the tops with a rag wet with cold water, being careful that no juice remains on them, then put on the covers, remove from the water to the stove hearth, and seal.

Everything must be hot from the beginning to the end—hot sirup, hot cans, hot fruit, hot sealing wax, and harder than all, hot and blowzy hands and faces just when the thermometer is at blood heat in the shade!

All small fruits are subject to the same process, except that the rule for them is simply to allow them to come to a boil, and not remain longer in the sirup. Strawberries, to retain their color and flavors, require more sugar, and to be put into glass, stone, earthen, or anything but tin. The same is true of blackberries.—Tomatoes I scald, peel, and then bring to a boil again, with a little salt added, when I put them in new tin, and seal. I have never been fortunate with glass or earthen. If stone jars are used be sure that you buy dark colored, well baked and glazed ones, not the yellow.—*Farmers' Advertiser.*

 Cows should always be milked regularly and clean.